Barr's Buffon.

Buffon's Natural Hiſtory.

CONTAINING

A THEORY OF THE EARTH,

A GENERAL

HISTORY OF MAN,

OF THE BRUTE CREATION, AND OF
VEGETABLES, MINERALS,
&c. &c.

FROM THE FRENCH.

WITH NOTES BY THE TRANSLATOR.

IN TEN VOLUMES.

VOL. IX.

London:
PRINTED FOR THE PROPRIETOR,
AND SOLD BY H. D. SYMONDS, PATERNOSTER-ROW.

1797.

BRITISH MUSEUM

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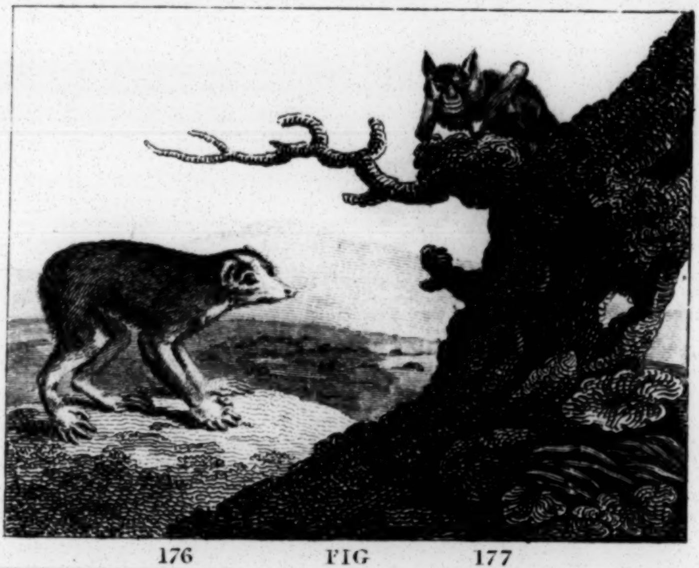
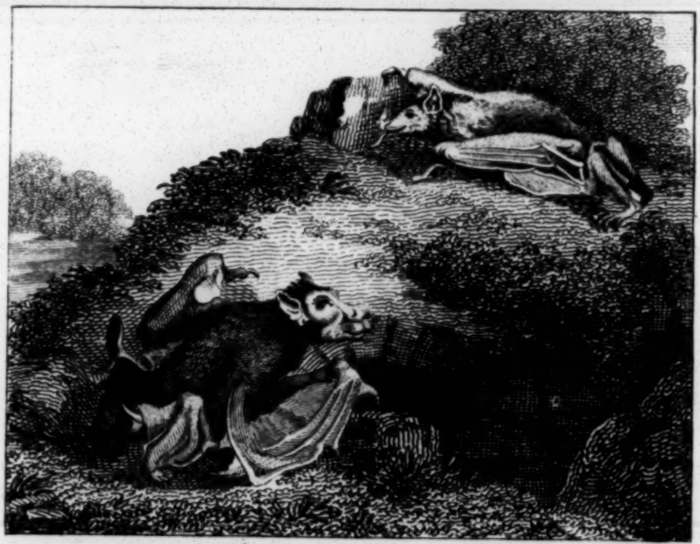


176 FIG 177

Loris *Javelin Bat*



178 FIG. 179

Large Headed Dº *Shrew Dº*

BUFFON'S NATURAL HISTORY.

OF CARNIVOROUS ANIMALS.

THE LORIS.

THE Loris (*fig*. 176.) is a ſmall animal found in Ceylon, very remarkable for the ſingularity of its conformation: it has, perhaps, of all animals, the longeſt body in proportion to its bulk, having nine vertebræ in the loins, whereas other quadrupeds have only five, ſix, or ſeven. The length of the body is the natural effect of this ſtructure, and it appears the longer for having no tail; in other reſpects, it reſembles the maki kind, as well in the hands and feet as in the quality of the hair, the number of teeth, and the ſharpneſs of its muzzle. Independent of theſe ſingularities, which ſeparates this animal from the makis, he has other particular attributes. His head is entirely round; his eyes are exceſſively large, and very cloſe to each other; his ears are large, round, and, in their inſides, have three auricles in the ſhape of ſmall ſhells; but what is ſtill more ſingular, the female diſcharges urine through the clitoris, which is perforated like the ſexual organ of the male, and who in theſe two parts perfectly reſemble each other.

Linnæus has given a ſhort deſcription of this animal, which appears to be exactly conformable to Nature. It is alſo very properly delineated by Seba; and evidently appears to be the ſame as that which Thevenot ſpeaks of in the following terms: "I ſaw, (ſays he) in the Mogul country, monkies which had been brought from Ceylon; they were greatly valued on account of their ſize, being not bigger than a man's fiſt. They were different from the common monkey, having a flat forehead, eyes round and large, and of a bright yellow colour, like thoſe of ſome cats: their muzzle is very pointed: the inſide of the ears is yellow, and they have no tail. When I examined them they ſat erect on their hind feet, folded the others acroſs, and looked round at the ſpectators without the leaſt ſigns of fear."

THE JAVELIN BAT.

AMONG the numbers of the bat ſpecies, which were neither named nor known, we indicated ſome by names derived from foreign languages, and others by denominations drawn from their moſt ſtriking characters. We have called one the *Horſe-ſhoe Bat*, from the exact reſemblance the fore part of its face bears to an horſe-ſhoe, and the animal in queſtion we have called the Javelin Bat, *(fig.* 177.*)* from a ſort of membrane on its noſe which perfectly reſembles the head of an ancient javelin, or ſpear. Tho' this character alone is ſufficient to diſtinguiſh it from all other bats, yet we can add, that it has ſcarcely any tail, that its hair and ſize are nearly like the common bat, but that inſtead of having ſix inciſive teeth in the lower jaw, it has only four. This ſpecies of bat is very common in America, but is never found in Europe.

There is another bat in Senegal, which has alſo a membrane upon its noſe, not in the form of a horſe-ſhoe, or javelin, as in the two bats we have juſt mentioned, but in the ſhape of an oval leaf. Theſe three bats, being of different climates, are not ſimple varieties but diſtinct and ſeparate ſpecies. M. Daubenton has given the deſcription of the Senegal bat, under the name of the *leaf bat*, in the Memoirs of the Royal Academy of Sciences, 1759, p. 374.

Bats which have great affinities to birds, by the power of flying, and the ſtrength of their pectoral muſcles, ſeem to reſemble them ſtill more in theſe membranes, or creſts, which they have on their faces. Theſe redundant parts, which, at firſt ſight, ſeem only to be ſuperfluous deformities, are real characters which fill up the viſible ſhades between theſe flying quadrupeds and birds; for moſt of the latter have creſts, or membranes, about their beaks and heads, which ſeem in every reſpect as ſuperfluous as thoſe of the bats.

SUPPLEMENT.

WE have received from M. Pallas the figures and deſcriptions of two bats hitherto unknown to naturaliſts; the firſt he calls the *cephalote*, or large-headed bat, *(fig.* 178.*)* from its head being ſo very large in proportion to its body. This bat, M. Pallas ſays, is found in the Malacca Iſlands; and from his finding but one fœtus in a female, which was ſent to him to Amſterdam, and which he diſſected, he concludes they have but one young at a time: this ſpecies differs alſo from all others in the teeth, which in ſome meaſure reſemble thoſe of the mouſe or hedge-hog; it has a ſhort tail, ſituated between the thighs, a large noſe, and a broad muzzle; and its breaſt is very ſimilar to that of a bird; it is very near four inches long, and its wings extend above a foot.

The ſecond he calls the *veſpertilic ſoricinus*, or *ſhrew bat (fig.* 179.*)*; this one has no tail, and carries a peculiar membrane on its noſe; it is the ſmalleſt met with without a tail, being not more than two inches in length. This ſpecies is very common in the warm climates of America, the Carribbee Iſlands, and Surinam.

At the ſame time M. Pallas ſent us the account of theſe animals; he remarks that we were in an error in our former deſcription of the javelin bat, by confounding it with the American bat, mentioned by Seba, he, from a careful examination, being convinced of their being different ſpecies; and we feel ourſelves indebted to this gentleman for the pains he has taken to rectify our miſtake.

THE SERVAL.

THIS animal, which was kept alive ſeveral years in the royal menagerie, by the name of the *tiger-cat*, ſeems to be the ſame with that deſcribed by the gentlemen of the Academy, under the denomination of the *chat-pard*; and we ſhould have ſtill remained ignorant of its true name if the Marquis de Montmirail had not diſcovered it in an Italian book, which he has tranſlated, and ſent us the following extract: "The *maraputê*, which the Portugueze in India call *ſerval* (ſays P. Vincent-Marie) is a ferocious animal, larger than the wild cat, and ſomething leſs than the civet, from which laſt he differs by his head being rounder and thicker, and his face ſinking in about the middle. He reſembles the panther in the colour of his hair, which is yellow on the head, back, and ſides, and white under the belly; alſo by the ſpots, which are diſtinct, equally diſtributed, and a little leſs than thoſe of the panther. His eyes are very brilliant; his whiſkers are compoſed of long and ſtiff briſtles; his tail is ſhort; his feet large, and armed with long and hooked claws. He lives among the mountains of India; he is ſeldom ſeen on the ground, but remains almoſt continually upon high trees, where he catches birds, which are his principal food. He leaps as nimbly as a monkey, and goes from one tree to another with ſuch addreſs and agility that he paſſes over a great ſpace in a ſhort time, and may be ſaid only to appear and diſappear: he is ferocious in his nature, but flies at the ſight of man, unleſs irritated, or his neſt attacked, when he flies at the offender, and bites and tears with great fury.

Neither captivity, nor good or bad treatment, will tame or ſoften the ferocity of this animal.

That which we ſaw in the menagerie was always ready to ruſh on thoſe who came nigh him: we could neither take a deſign nor a deſcription of him, otherwiſe than betwixt the bars of his cage. He was fed with fleſh, like the panther and leopard. This ſerval, or maraputé of Malabar and India, ſeems to be the ſame animal as the tiger-cat of Senegal and the Cape of Good Hope, which, according to the teſtimony of travellers, reſembles our cat in its ſhape, and the tiger (that is, the panther or leopard) by the black and white ſpots of his fur. "This animal (ſay they) is four times larger than a cat; is of a very voracious nature, and feeds on monkies, rats, and other animals."

By the compariſon we made of the ſerval and the chat-pard, deſcribed by the gentlemen of the Academy, we diſcovered no other difference than the long ſpots on the back, and the rings on the tail of the chat-pard, which the ſerval has not. The ſpots on the back of the ſerval is cloſer than thoſe on the other parts of his body; but theſe little diſagreements are ſo ſlight that we cannot doubt of the identity of the ſpecies of theſe two animals.

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Engraved for Barr's Buffon

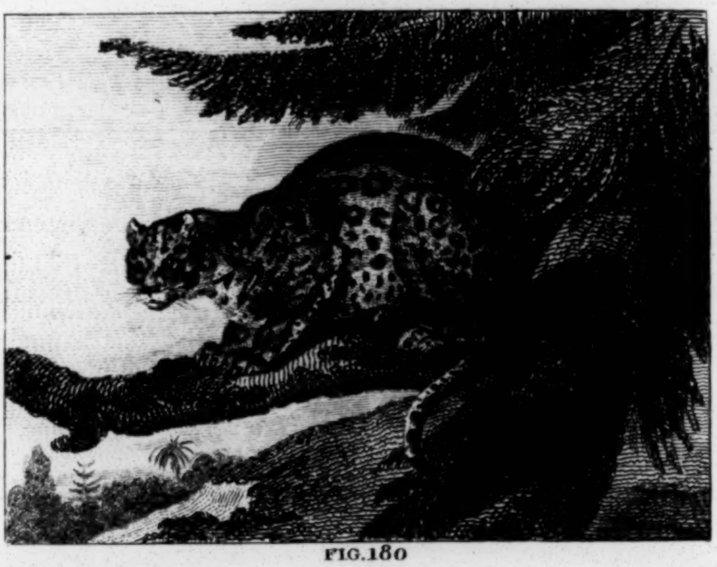

FIG.180

Ocelot

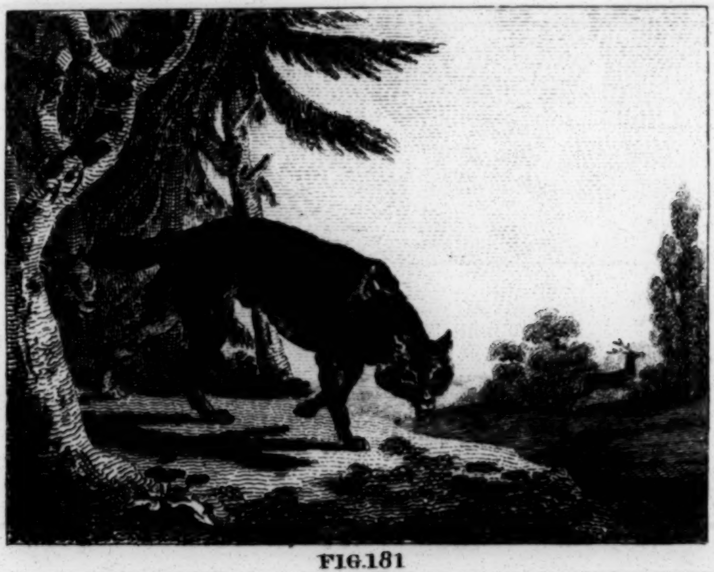

FIG.181

Jackal

THE OCELOT.

OCELOT is an abbreviation of *tlalocetotl*, the name of this animal in Mexico, its native country. It is ferocious and carnivorous, and may be ranked with the jaguar and cougar, for it is very near the ſame ſize, and reſembles them in figure and diſpoſitions. A male and female were ſhewn at the fair of St. Ovide, in September 1764. They came from the neighbourhood of Carthagena, and had been taken from their mother in the month of October, 1763. They became ſo ſtrong and cruel at the age of three months as to kill and eat the bitch which had nurſed them. When we ſaw them, at a year old, they were about two feet long, and they had then, probably, not attained more than one half, or two-thirds, of their growth. Theſe animals were ſhewn by the name of the *tiger-cat*, but we have rejected this denomination as precarious and confuſed, eſpecially as the jaguar, ſerval, and the margay, or Cayenne cat, were ſent to us under the ſame denomination, although thoſe three animals are very different from each other, as well as from the one we are at preſent treating of.

The firſt author who mentions this animal in a diſtinct manner is Fabri. He cauſed Recchi's deſigns of this animal to be engraved, and compoſed his deſcription from them. He gives alſo a kind of hiſtory of him from the writings and information of Gregoire de Bolivar. I made theſe obſervations with a view to throw a light on the circumſtance which had led all the naturaliſts into an error, and by which I acknowledge I was alſo deceived. This circumſtance is to know whether the two animals deſigned by Recchi, the firſt by the name of *tlatlauhqui ocelotl*, and the ſecond by that of *tlacooziotl*, *tlalocelotl*, and afterwards deſcribed by Fabri as different ſpecies, are not the ſame animal. They were conſidered as diſtinct animals, notwithſtanding the reſemblance of their figures, becauſe their names, and even deſcriptions, were different. I then ſuppoſed the firſt might be the ſame as the jaguar, and therefore gave him the Mexican name of *tlatlauhqui-ocelotl*, which I am now convinced does not belong to him; and ſince I have ſeen both the male and female, I am perſuaded,

ſuaded, that the two deſcribed by Fabri, are only the ſame animal, of which the firſt is the male, and the ſecond the female. This error could only have been diſcovered by ſuch a chance as we had of examining both the male and the female together. Of all animals whoſe ſkins are ſpotted, the robe of the male ocelot (*fig.* 180.) is certainly the moſt beautiful, and moſt elegantly varied. Even the ſkin of the leopard does not come near it for the livelineſs of its colours, and the regularity of the marks; and far leſs thoſe of the jaguar, panther, and ounce. The colours of the female ocelot are much weaker, and the deſign leſs regular; and this apparent difference it was that deceived Recchi, Fabri, and others, and was the occaſion of their conſidering them as different ſpecies.

When the ocelot has arrived at its full growth, he is, according to Bolivar, two feet and an half high, and about four feet long. The tail, though of a good length, does not touch the ground when hanging down, and conſequently is not more than two feet long. This animal is very voracious, but at the ſame time exceedingly timid. He ſeldom attacks the human ſpecies, and is terrified at the ſight of a dog. When purſued, he flies to the foreſts, and climbs up a tree for ſafety, where he alſo ſleeps and watches for ſmall animals, on which he ſprings when he ſees them within his reach. He prefers blood to fleſh, and for this reaſon he deſtroys a great number of animals; for inſtead of ſatisfying his hunger by devouring their fleſh, he only quenches his thirſt by ſucking their blood.

In a captive ſtate, he preſerves his ſavage nature: nothing can ſoften his ferocious diſpoſition, nor calm his reſtleſs motion, which makes it neceſſary to confine him conſtantly in a cage. "After theſe young animals (ſays M. de l'Eſcot) had devoured their nurſe, I confined them in a cage, and had them fed with freſh meat, of which they eat from ſeven to eight pounds a day. The male had a ſingular ſuperiority over the female, for however hungry the latter might be, ſhe never touched any of the food until he was ſatisfied, or ſuch pieces as he gave her, having previouſly rejected them. I ſeveral times gave them a live cat, whoſe blood they ſucked until the animal died, but they never eat any of their fleſh. I put two live kids on board the veſſel for their ſubſiſtence, for they neither eat, nor touched boiled nor ſalted meat."

By the teſtimony of Gregoire de Bolivar, theſe animals commonly produce but two young ones at a birth, which M. de l'Eſcot ſeems to confirm, by ſaying, he had killed the mother before the two ocelots we have been ſpeaking of were taken away.

THE MARGAY.

THE Margay is much ſmaller than the ocelot. He reſembles the wild cat in the ſize and ſhape of his body, only his head is more ſquare, his ſnout and tail longer, and his ears more rounded; his hair alſo is ſhorter, and he has black ſtreaks and ſpots on a yellow ground. He was ſent us from Cayenne by the name of the *tiger-cat*, and, in fact, he partakes of the nature of the cat, jaguar, and ocelot, animals to which the name of tiger has been affixed in the New Continent. According to Fernandes, when this animal has arrived at its full growth, it is not quite ſo big as the civet; and, according to Marcgrave, whoſe compariſon ſeems more juſt, he is about the ſize of a wild cat, which he alſo reſembles by his natural habits; living upon fowls and ſmall animals. He is very difficult to be tamed, and never loſes his natural ferocity. He varies greatly in his colours, though they are commonly ſuch as we have deſcribed. This animal is very common in Guinea, Braſil, and in all the other provinces of South America. There is an appearance of the *pichou* of Louiſiana being the ſame animal, but the ſpecies is leſs common in temperate than in hot climates.

If we make a reviſal of theſe cruel animals, whoſe robes are ſo beautiful, and whoſe nature are ſo malign, we ſhall find the tiger, panther, leopard, ounce, and ſerval, inhabit the Old Continent; and the jaguar, ocelot, and margay, are natives of the New. Theſe three laſt appear to be miniatures of the former, and which, having neither the ſize nor ſtrength, are as timid and cowardly in proportion as the others are bold and intrepid.

There is another animal of this claſs which the furriers call *Guepard*. We have ſeen many of their ſkins, and they have a reſemblance to the lynx in the length of the hair; but the ears not being terminated by a bruſh of hair, the guepard cannot be a lynx. Neither is he a panther nor a leopard; for his hair is not ſo ſhort as that of thoſe animals, and he differs from all of them by a kind of mane, about four or five inches long on his neck, and between his ſhoulders. The hair on his belly is alſo three or four inches long, and his tail much ſhorter in proportion than that of the leopard, panther, or ounce. He is nearly of the ſize of the laſt animal, not being above three feet and a half long. He is of a very pale yellow colour, ſprinkled with black ſpots like the leopard, but cloſer to each other, and much ſmaller.

I thought this animal might be the ſame as that Kolbe mentions by the name of the *tiger-wolf*. He is common in the countries bordering on the Cape of Good Hope. All the day he remains in the clefts of the rocks, or in holes which he digs in the ground. In the night he ſeeks for prey, but as he howls when in ſearch of game, he warns men and animals of his approach; ſo that it is very eaſy to avoid, or to kill him. The name *guepard* is apparently derived from the word *lepard*; the mode in which the German and Dutch ſpell *leopard*. We have alſo obſerved there are many varieties in this ſpecies, both in reſpect to the ground colour, and that of the ſpots; but every *guepard* has the common character of long hairs on the belly, and a mane on the neck.

SUPPLEMENT.

M. de la BORDE, in treating of the tiger-cat of Cayenne, ſays, he has a ſkin very much ſpotted like that of the ounce; that he is ſmaller than the fox, but whom he much reſembles in habits and diſpoſition, that he generally reſides in the woods, and lives chiefly on the game which he deſtroys; as he climbs trees with great facility, he ſeizes their young in their neſts, and upon the branches of trees he lies in wait for his prey; he rather leaps than walks, and yet does not proceed very faſt; that at Cayenne they keep theſe animals chained in their houſes; and the utmoſt degree they ſeem to be tamed, is to ſuffer themſelves to be ſtroaked on the back; they are there fed with fiſh or fleſh, and will not take any other kind of food; and that they bring forth as well in the winter as ſummer, and generally two at a time.

M. Colinſon mentions another ſpecies of tiger-cat as a native of Carolina, and of whom he has given me the following deſcription: "The ſize of the male was nineteen inches from the noſe to the tail; the latter of which was four inches long, and was encircled with eight white rings; his principal colour was a light brown mixed with grey, with black ſtripes along his ſides; his belly was inclined to white ſprinkled with black ſpots, as were alſo his legs, which were very ſlight; his ears were very open and covered with hair; under his eyes were two large black ſpots, and beneath him a tuft of ſtiff black hairs. The female was of a leſs make; ſhe was more inclined to red, and had no black ſpots, except a ſingle one on the belly."

THE JACKALL, AND THE ADIL.

WE are not certain whether theſe two names denote animals of different ſpecies; we only know, that the Jackal *(fig.* 181.*)* is larger, more ferocious, and more difficult to be tamed, than the Adil; but, in other reſpects they bear a perfect reſemblance. The adil, therefore, may poſſibly be the jackal become ſmaller, weaker, and more gentle, than the wild race, from being tamed and rendered domeſtic; for the adil is nearly the ſame, with reſpect to the jackal, as the lap-dog, or the little water ſpaniel, is to the ſhepherd's dog. However, as this fact is only exemplified by a few particular examples; as the jackal is not, in general, domeſtic, like the dog, and, as ſuch great differences are ſeldom found in a free ſpecies, we are inclined to believe, that the jackal and the adil are really two diſtinct ſpecies. The wolf, the fox, the jackal, and the dog, though they approach very nigh each other, form four different ſpecies. The varieties in the dog ſpecies are very numerous; the greateſt part of which ſeems to proceed from their domeſtic ſtate, to which they have been ſo long ſubjected. Man has multiplied the races in this ſpecies by mixing the great with the ſmall, the handſome with the ugly, the long-haired with the ſhort, &c. But there are many varieties in the dog ſpecies, independent of thoſe races produced by the care of man, which ſeem to derive their origin from the climate. The Engliſh bull-dog, the Daniſh dog, the ſpaniel, the Turkiſh dog, the Siberian dog, and others, derive their names from the countries of which they are natives; and there ſeems to be greater differences between them, than between the jackal and the adil. The jackals, therefore, may have undergone ſeveral changes from the influence of different climates; and which ſuppoſition correſponds with the facts we have collected. By the writings of travellers it appears, that there are different ſized jackals in all parts; that in Armenia, Cilicia, Perſia, and in all that part of Aſia, called the Levant, where this ſpecies is very numerous, troubleſome, and very hurtful, they are generally about the ſize of our foxes; but their legs are ſhorter, and the colour of their hair is of a gloſſy and bright yellow; and this is the reaſon why they have been called the *yellow* or *golden wolf*. This ſpecies ſeem to have undergone many varieties in Barbary, the Eaſt Indies, the Cape of Good Hope, and in other provinces of Africa and Aſia. In theſe hot countries they are large, and their hair is rather of a reddiſh brown, than of a beautiful yellow; and ſome of them are of different colours. The ſpecies of the jackal is ſpread all over Aſia, from Armenia to Malabar; and is found alſo in Arabia, Barbary, Mauritania, Guinea, and at the Cape of Good Hope. It ſeems to ſupply the place of the wolf, which is wanting, or at leaſt, is very ſcarce in all the hot countries.

However, as both the jackal and the adil are found in the ſame countries; as the ſpecies has not been altered by a long continuance in a domeſtic ſtate, and as there is always a conſiderable difference in the ſize, and even in the diſpoſitions of theſe animals, we ſhall look on them as diſtinct ſpecies, until it be proved that they intermix and produce together. Our preſumption on the difference of theſe two ſpecies is the better founded, as it ſeems to agree with the opinion of the ancients. Ariſtotle, after having ſpoken of the wolf, the fox, and the hyæna, gives ſome obſcure intimations of two other animals of the ſame genus, one by the name of the *panther*, and the other by that of the *thos*. The tranſlators of Ariſtotle have interpreted *panther* by *lupus canarius*, and *thos* by *lupus cervarius*; that is, the dog-wolf and the ſtag-wolf. This interpretation ſufficiently indicates, that they conſidered the panther and thos to belong to the ſame ſpecies. But I obſerved, under the article *lynx*, that the lupus cervarius of the Latins, is not the thos of the Greeks. This lupus cervarius is the ſame as the chaus of Pliny, which is our lynx, and which has not a ſingle character that agrees with the thos. Homer, when painting the valour of Ajax, makes him ſingly ruſh among a band of Trojans, in the midſt of whom Ulyſſes was engaged; and then compares him to a lion that ſuddenly ſprings on a troop of the thos, ſurrounding a ſtag at bay, diſperſes and drives them away as mean and contemptible animals. This word, thos, the commentator of Homer interprets by that of panther, which he ſays is a kind of weak and timid wolf: thus, the thos and panther have been conſidered as the ſame animal by ſome of the ancient Greeks. But Ariſtotle ſeems to make a diſtinction between them, without giving them any diſtinct characters. "The thos (ſays he) have their internal parts like thoſe of the wolf; they copulate like dogs, and bring forth two, three, or four young ones at a time, which are born with their eyes ſhut. The body and tail of the thos are longer than thoſe of the dog; his legs are ſhorter, but that does not prevent him from being as ſwift, and he can ſpring much farther. The lion and the thos are enemies, becauſe they both live upon fleſh, and ſeeking their food from the ſame ſource, that cauſes diſputes between them. The thos never attacks, and is but little afraid of the human ſpecies. He fights with the dog and the lion, which anſwers for the lion, and thos not being ſeen in the ſame places. The ſmalleſt thos is eſteemed the beſt. There are two ſpecies of them, and ſome authors even make three *." This is all Ariſtotle ſays concerning the thos, and he ſpeaks ſtill leſs about the panther; for he mentions it but in one ſingle paſſage in the 35th chapter of the Sixth Book of his Hiſtory of Animals, and there ſays, "the panther produces four young ones at a time, which are born with their eyes ſhut like young wolves." By comparing theſe paſſages with that of Homer, and other Grecians, it ſeems almoſt certain, that the thos of Ariſtotle is the great jackal, and that the panther is the little jackal, or the adil. We find, that he admits the exiſtence of two ſpecies of thos, and that he ſpeaks of the panther but one, and that when treating of the thos. It is therefore probable, that this panther is the ſmall thos; and this probability ſeems to become almoſt a certainty by the teſtimony of Oppian, who places the panther among the number of ſmall animals, ſuch as the cat and dormice.

Thus, then, the thos is the jackal, and this panther the adil, and whether they make two different ſpecies, or but one, it is certain, that all the ancients have ſaid of the thos, or panther, applies to the jackal and the adil, and to

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* Ariſt. Hiſt. Anim.

to no other animal. If, therefore, the true ſignification of theſe names have not been known till now, or, if they have been miſinterpreted, it is becauſe the tranſlators were unacquainted with theſe animals, and that our modern naturaliſts were not better informed.

Though the ſpecies of the wolf approaches that of the dog, yet the jackal finds a place between them both. The *jackal*, or *adil*, as Belon remarks, *is an animal between the wolf and the dog*. With the ferocity of the wolf he joins a little of the familiarity of the dog; his voice is a kind of howl mixed with barking and groaning. He is more noiſy than the dog, and more voracious than the wolf. He never ſtirs out alone, but always in flocks of twenty, thirty, or forty. They collect together every evening to go in ſearch of their prey. They live principally on ſmall animals, and make themſelves formidable to the moſt powerful by their number. They attack every kind of cattle or poultry almoſt in the preſence of men. They boldly enter ſtables, ſheep-folds, and cow-houſes, without any ſigns of fear, and when they cannot meet with any thing better they will devour boots, ſhoes, harneſſes, &c. and what they have not time to conſume they take away with them. When they cannot meet with any live prey they dig up the carcaſes of men and animals. The inhabitants are obliged to cover the graves of the dead with large thorns, to prevent theſe animals from ſcratching and digging up their dead bodies, for their being buried very deep in the earth is not ſufficient to prevent them from accompliſhing their purpoſe. Numbers of them work together in this, and they accompany their labour with a dolcful cry; and when they are once accuſtomed to human bodies they ſearch out burial places, follow armies, and keep cloſe to the caravans. They may be ſtiled the ravens among quadrupeds, for they will eat the moſt infectious fleſh. Their appetite is ſo conſtant, and ſo vehement, that the drieſt leather, ſkins, fleſh, excrements, or the moſt putrified animal, is alike welcome to them. The hyæna has the ſame taſte, and alſo digs up bodies out of their graves, on which account, though very different from each other, they have often been confounded. The hyæna is a ſolitary, ſilent, ſavage animal, which, though ſtronger and more powerful than the jackal, is not ſo obnoxious, and is contented with devouring dead bodies, without troubling the living, while all travellers complain of the cries, thefts, and gluttony of the jackal, which unites the impudence of the dog with the cowardice of the wolf, and participating of the nature of each, ſeems to be an odious animal compoſed of all the bad qualities of both.

THE ISATIS.

IF a number of general reſemblances, and a perfect conformity of internal parts, were ſufficient to conſtitute the unity of ſpecies, the wolf, the fox, and the dog, would form but one, for the reſemblances are more numerous than their differences, and their internal parts are entirely ſimilar. Theſe three animals, however, form three ſpecies, not only diſtinct but ſufficiently diſtant to admit intermediate ones. The jackal is an intermediate ſpecies between the dog and the wolf; and the iſatis finds room between the fox and the dog. This animal has till now been regarded as a variety in the fox ſpecies, but the deſcription given by Gmelin clearly proves them to be two different ſpecies.

The iſatis is very common in all the northern countries adjacent to the frozen ſea, and but rarely found on this ſide the 69th degree of latitude. He perfectly reſembles the fox in the form of his body, and the length of his tail; but his head is more like that of a dog. His hair is ſofter than that of the common fox, and is ſometimes white, though often of a bluiſh-aſh. His head is ſhort in proportion to his body, it is broad towards the neck, and terminates in a ſharp-pointed ſnout. His ears are almoſt round. He has five toes and five claws on the fore-feet, and only four on the hind ones. The penis of the male is ſcarcely thicker than a quill; the teſticles are as big as almonds, and ſo thickly covered with hair that it is difficult to perceive them. The hair on every part of the body is about two inches long, ſmooth and ſoft as wool. The noſtrils, and under lip, have no hair on them, and the ſkin is black.

The ſtomach, inteſtines, viſcera, and ſpermatic veſſels, of both male and female, are like thoſe of the dog, and the whole ſkeleton entirely reſembles that of a fox.

The voice of the iſatis partakes of the barking of a dog and the yelping of a fox. Thoſe who deal in furs diſtinguiſh two animals of this kind, the one white, and the other of a bluiſh-aſh colour; the laſt are the moſt valuable. This difference in colour is not ſufficient to conſtitute two different ſpecies, for experienced hunters aſſured M. Gmelin that they have found in the ſame litter ſome of the young ones white and others aſh coloured.

The iſatis inhabits the northern climates, and prefers thoſe countries which border on the frozen ſea and the banks of the rivers which fall into it. They are found in the coldeſt, moſt mountainous, and moſt barren parts of Norway, Lapland, Siberia, and even Iceland. Theſe animals copulate in the month of March, and being formed like the dog they do not ſeparate for ſome time. The females continue in heat from fifteen days to three weeks, and which being over they retire into the holes, or burrows, which they have previouſly prepared. They make ſeveral paſſages to theſe burrows, which they keep very clean, and furniſh with moſs for their greater convenience. Their time of geſtation, like that of the bitch, is about nine weeks. They litter about the latter end of May, or beginning of June, and commonly produce from ſix to eight at a time. Thoſe which are yellow when firſt littered become white as they grow up, and thoſe which are blackiſh change to an aſh. When young their hair is very ſhort. The mother ſuckles them five or ſix weeks, after which time ſhe drives them out of the burrow, and teaches them to ſeek for their own nutriment. By September their hair attains the length of half an inch, and is then entirely white, excepting a longitudinal brown ſtreak upon the back, and another acroſs the ſhoulders; it is then called *vulpis crucigera*, or the *croſt fox*; but this brown croſs diſappears before the winter, when the whole body of the animal is white, and the hair about two inches long. In May their hair begins to come off, and continues to do ſo until July, by which time they have entirely ſhed their coats, ſo that their fur is only valuable in winter.

The iſatis lives upon rats, hares, and birds, which he catches with as much ſubtlety as the fox. He plunges in the water, and traverſes the lakes in ſearch of water-fowls and their eggs: and the only enemy he has to dread in theſe deſart and cold countries, is the glutton. As the wolf, the fox, the glutton, and other animals which inhabit the northern parts of Europe and Aſia, have paſſed from one continent to the other, they are found in America; we muſt therefore conclude the iſatis is to be

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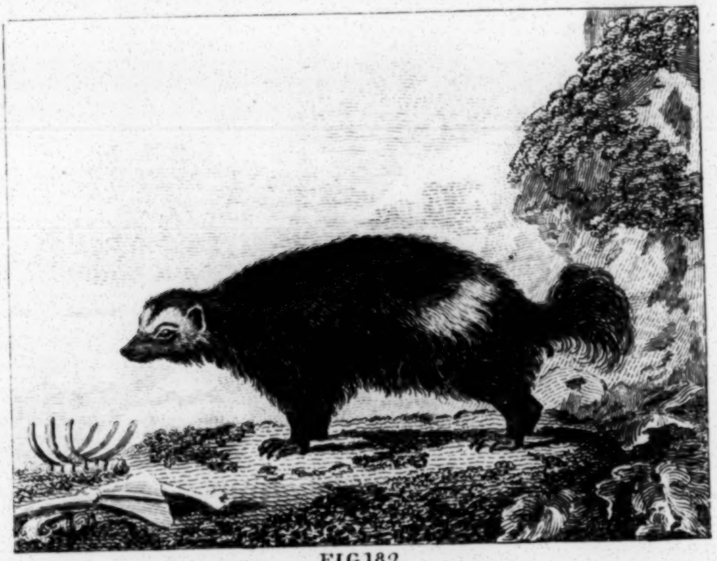
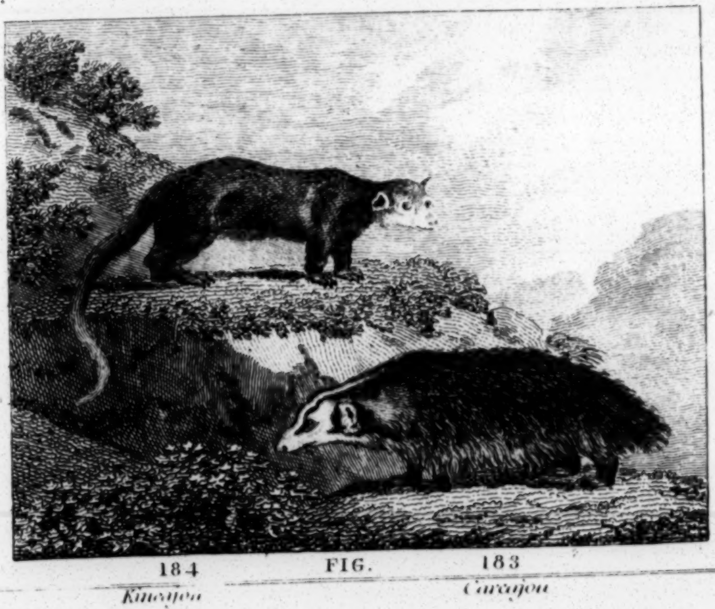


FIG.182

Glutton



184 FIG. 183

Kincajou *Carcajou*

met with in the New Continent, and I am inclined to believe that the grey fox of North America, which Cateſby has given the figure of, may poſſibly be the iſatis, inſtead of a ſimple variety in the ſpecies of the fox.

THE GLUTTON.

THE body of the Glutton *(fig.* 182.*)* is thick, and his legs ſhort. He is ſomewhat of the form of a ram, but nearly as thick again. His head is ſhort, his eyes ſmall, his teeth very ſharp and ſtrong, his tail rather ſhort, and covered with hairs to its extremity. He is black along the back, and of a reddiſh brown on the ſides and flanks. His fur is exceedingly beautiful, and much valued. This animal is very common in Lapland, and in all neighbouring countries of the Northern Seas, both in Europe and Aſia. He is called *carcajou* in Canada, and in the northernmoſt parts of America. There is alſo every appearance that the animal of Hudſon's Bay, which Edwards has called the *quick hatch*, or *wolverin*, is the ſame as the carcajou of Canada, or the glutton of the northern part of Europe. That which Fernandes has mentioned, by the name of *tepeytzeutichli*, or the *mountain dog*, is, probably, of the glutton ſpecies, and which may poſſibly be diſperſed as far as the deſart mountains of New Spain.

Olaus Magnus ſeems to be the firſt who has mentioned this animal. In his deſcription this author ſays, he is of the ſize of a large dog, that his ears and face are like thoſe of the cat; the feet and claws very ſtrong; the hair brown, long, and tough; and the tail buſhy, like that of a fox, but much ſhorter. According to Scheffer, the head is round; the teeth ſtrong and ſharp, like thoſe of the wolf; the hair black, the body very broad, and the feet ſhort like thoſe of the otter. La Hontain, who is the firſt that ſpeaks of the carcajou of North America, ſays, "Figure to yourſelf an animal of double the ſize and thickneſs of a badger, and you have a perfect reſemblance of this animal." According to Sarrazin, who poſſibly only ſaw a young carcajou, its body is only two feet long, and its tail eight inches. "It has (ſays he) a very ſhort and very thick head; its eyes are ſmall; its jaws very ſtrong and furniſhed with thirty-two ſharp teeth." The young bear, or young wolf, of Edwards, which ſeems to be the ſame animal, was, according to him, as thick again as the fox ; its back was crooked ; its legs ſhort ; its belly almoſt trailing on the ground ; and its tail of a middling length tufted towards the end. Thus, every circumſtance agrees to confirm this animal's being a native of the moſt northern parts of Europe, Aſia, and America. Gmelin is the only one who affirms, that it travels even into hot countries. But this aſſertion appears very dubious, if not abſolutely falſe. Gmelin, like many other naturaliſts, has perhaps confounded the hyæna of the South, with the glutton of the North, which bear ſome reſemblance in their natural habits, eſpecially that of voracity ; but in every other reſpect they are entirely different.

The legs of the glutton are not formed for running, but with cunning he ſupplies the deficiency of ſwiftneſs. He conceals himſelf to watch for his prey ; and to ſeize it with greater ſecurity he climbs up trees, from which he darts even on the elk and rein-deer, and faſtens himſelf ſo ſtrongly with his claws and teeth on their backs that all their efforts cannot remove him. The poor animal thus attacked, in vain flies with its utmoſt ſpeed, in vain rubs himſelf againſt trees, to obtain deliverance from this cruel enemy ;

enemy; all is uſeleſs; faſtened on his back or loins the glutton perſiſts in digging into his fleſh, and ſucking his blood, till the animal, fainting with loſs of blood, ſinks a victim to his tormentor, then the glutton devours his fleſh with the utmoſt avidity and cruelty; and ſeveral authors affirm, that it is almoſt inconceivable the length of time he will continue eating, or the quantity of fleſh he will devour.

The accounts of travellers may be poſſibly exaggerated; but if we even retrench a great part of their recitals, there will ſtill remain ſufficient to convince us that the glutton is much more voracious than any other beaſt of prey; and from this circumſtance he has, and poſſibly not unjuſtly, been denominated the *quadruped vulture*. He is more inſatiable, and commits greater depredations, than the wolf; and would deſtroy every animal, if he had ſufficient agility, but he is reduced to drag himſelf heavily along; and the only animal he is capable of overtaking is the beaver, whom he eaſily deſtroys. He even attacks that animal in his hole and devours both him and his young, unleſs they get to the water, in which caſe the beaver eſcapes his enemy by ſwimming, for the glutton ſtops his purſuit to feed on the fiſh he can find. When deprived of living food, he goes in ſearch of carcaſes, ſcratches open graves, and devours the fleſh of dead bodies.

Although this animal is ſubtle and uſes every art to conquer others, he does not ſeem to have the leaſt inſtinct for his own preſervation. This indifference, which ſeems to ſhew imbecility, is perhaps occaſioned by a different cauſe; for it is certain, the glutton is not a ſtupid animal, ſince he readily finds means to ſatisfy his perpetual appetite; he does not want for courage, ſince he attacks every animal indifferently that comes in his way, and does not fly at the ſight of man, nor even ſhew the leaſt mark of fear. But this negligence for his own ſafety does not ariſe from an indifference for his preſervation, but from an habit of ſecurity. He is almoſt a ſtranger to men, for being a native, and reſident of deſart countries where they ſeldom come, when he does meet them, he has no reaſon to take them for enemies; beſides, in every conteſt with other animals he is certain of conqueſt; and therefore it is he moves with confidence, and has not the leaſt idea of fear, which ſuppoſes ſome foreproved misfortune, or ſome experience of weakneſs and inability. We have an example of this intrepidity in the lion, who never turns his back on man, at leaſt till he has tried his ſtrength ; ſo the glutton traverſes the ſnow, in his own deſart climate, in perfect ſecurity. In thoſe regions he reigns ſupreme, as does the lion in the foreſts and burning ſands ; and if not, like him, from ſuperior prowesſ, he is no leſs ſo from the weakneſs and timidity of thoſe with whom he has to contend.

The iſatis is not ſo ſtrong, but much ſwifter than the glutton ; he ſerves the latter as a purveyor, for the glutton follows him in his purſuit of animals, and often deprives him of his prey ; for as ſoon as he approaches, the iſatis, to avoid his own deſtruction, takes to flight, and leaves to his purſuer what he has not had time to devour. Both theſe animals burrow under ground ; but in every other habit they differ. The iſatis will aſſociate and often go in company ; while the glutton always moves alone, or at moſt with his female ; indeed the male and female are frequently found together in their burrows. The moſt fierce dogs are averſe to attacking the glutton, as he defends himſelf with his teeth and feet, and often mortally wounds them ; but as he cannot eſcape by flight, when once beſet it is not long before he is ſubdued.

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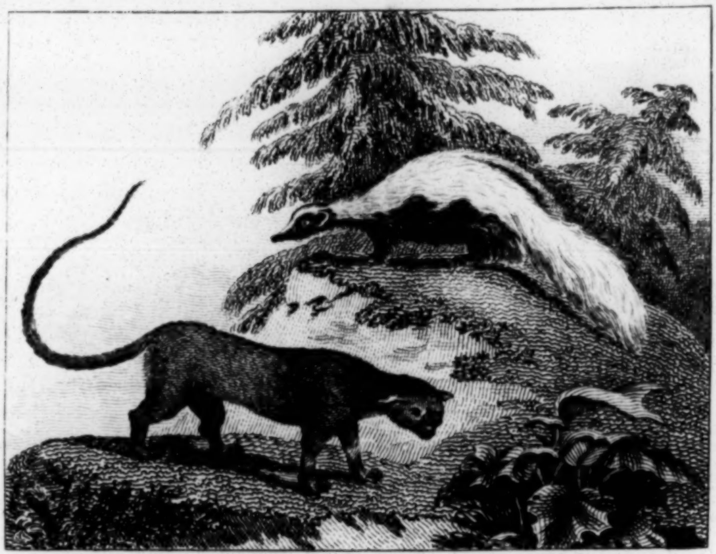
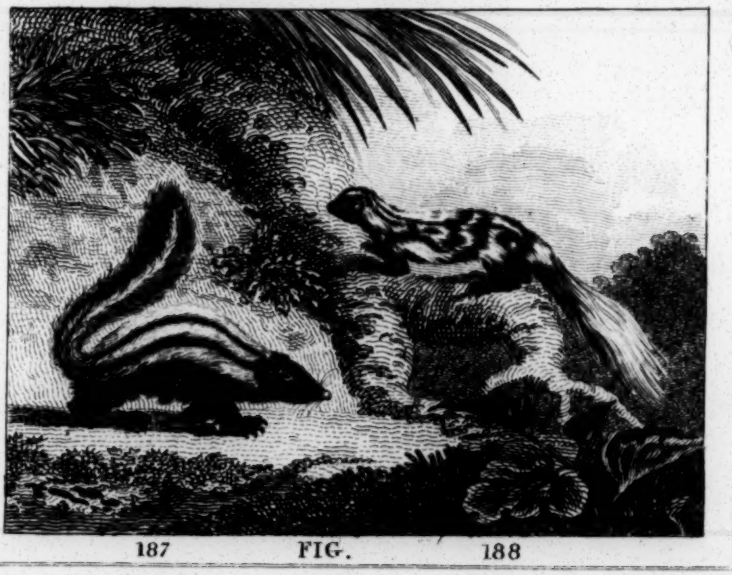


185 FIG. 186

Potot *Chinch*



187 FIG. 188

Conepate *Zorille*

The fleſh of the glutton, like that of every other voracious animal, is very bad food. He is only hunted for his ſkin, which makes beautiful fur, not inferior to the ſable and black fox. Some of them, when well-dreſſed, has a more beautiful gloſs than any other ſkin, and is by no means inferior in appearance to a rich damaſk.

THE STINKARDS.

THESE animals are found in every part of South America ; but they have been very indiſtinctly deſcribed by travellers, and not only confounded with each other, but alſo placed with animals of a very diſtinct ſpecies. Hernandes has very clearly indicated three of theſe animals ; the firſt he calls by its Mexican name *yſquiepatl*, and which is the ſame animal that Seba has given a figure of in his works, and is called *ſquaſh* in New Spain. The ſecond Hernandes alſo denominates by the ſame name, and which in South America is called the *ſhink*. The third he ſtiles *conepate*, and which has been mentioned by Cateſby, under the appellation of the *American pole-cat*, and by M. Briſſon, by that of the *ſtriped pole-cat*. Beſides thoſe mentioned by Hernandes, there is a fourth kind of theſe animals called *zorille*, in Peru, and in ſome parts of the Spaniſh ſettlements in India.

We are indebted to M. Aubry for the knowledge of the *ſquaſh*, the *ſkink*, and the *zorille*; the two laſt may be regarded as originals, as we do not meet with their figures in any other author.

The firſt of theſe animals came to M. Aubry by the name of *pekan*, or the *wild cat* of Virginia. I perceived it was not the real pekan, but the ſame animal Hernandes has deſcribed by the name of *yſquiepatl*, and which has been indicated by travellers by the name of *ſquaſh*, or *potot*. (*fig.* 185.) It is about ſixteen inches long; its legs are ſhort, its muzzle rather pointed, its ears ſmall, its hair of a deep brown, and its claws black and ſharp. It chiefly dwells in the hollows and clefts of rocks, where it brings forth its young. It preys upon ſmall animals, birds, &c. and often ſteals into a farm yard, where it kills the poultry, but eats only their brains. When it is purſued or offended, it calls up the moſt diabolical ſcents to its defence, and ſends forth ſuch a horrid ſtench, that it is dangerous for men or dogs to approach it.

Its urine is apparently infected with this nauſeous vapour, but which does not ſeem habitual to it. "I had one of theſe animals ſent me, (ſays Seba) which I kept alive in my garden during the ſummer; it never attempted to injure any perſon; and when properly fed it might be managed like a little dog. It burrowed in the earth with its ſnout and the aſſiſtance of the two fore-paws, the claws of which were long, and turned backwards: in the day-time it concealed itſelf in the hole it had dug; at night it came out, and continued conſtantly running backwards and forwards, as far as its chain would permit. It only eat as much food as would ſatisfy its hunger; it never touched fleſh nor bread, but ſeemed principally fond of caterpillars, ſpiders, worms, &c. One morning, towards the end of autumn, it was found dead, unqueſtionably from not being able to endure the cold. The hair along its back was of a deep cheſnut; its ears were ſhort, the fore-part of its head round, and of a lighter colour than that on the back; on the belly it was yellow. Its tail was of a middling length, covered with a brown and ſhort hair, annulated with ſmall rings." Although the deſcription and figure given by Seba agrees with that of Hernandes, we muſt, however, doubt their both being the ſame animal, ſince Seba does not make any mention of its deteſtable ſcent; and it is difficult to conceive it poſſible for him to have kept ſuch a ſtinking animal a whole ſummer in his garden, without ſpeaking of the inconvenience that would ariſe from ſuch a circumſtance; and we might ſuppoſe that the animal deſcribed by Seba was a different one from that mentioned by Hernandes; but this ſuſpicion, which at firſt ſight ſeems to be well founded, muſt be entirely obviated, when it is known that this animal only ſends forth this infectious ſcent when purſued or offended; and that it has likewiſe been caught and tamed by many people in America.

Among the above four kinds of *ſtinkards*, which we diſtinguiſh by the names of the *ſquaſh*, or *potot*, *conepate*, *chinch*, or *ſkink*, and *zorille*: the two laſt belong to the warm parts of South America, and may poſſibly be no more than two varieties, and not different ſpecies. The two firſt are varieties of New Spain, Louiſiana, Carolina, and other temperate climates, and ſeem to be diſtinct and different ſpecies from the others; but particularly the ſquaſh, which has the peculiar character of having only four claws on the fore-feet, whereas all the reſt have five. But in other reſpects theſe animals are nearly alike, they have the ſame inſtinct, the ſame offenſive ſcent, and only differ in ſize, and by the colour and length of the hair. The ſquaſh is of a pretty uniform brown colour, and its tail is not tufted like the reſt. The conepate *(fig.* 187.*)* has five white ſtripes on a black ground, running longitudinally from the head to the tail. The ſkink, or chinch, *(fig.* 186.*)* is white on the back, and black on the ſides, but quite black on the head, excepting a white ſtreak from the nape of the neck to the forehead ; its tail is tufted and cloathed with very long white hairs, mixed with ſome of a black colour.

The zorille, *(fig.* 188.*)* which is alſo called mauripita, is ſtill ſmaller, and has a beautiful tail, as buſhy as that of the chinch, from which he differs by the diſpoſition of the colours on his coat. He has ſeveral long white ſtreaks, which run longitudinally from the head to the middle of the back, on a black ground, and others which paſs tranſverſally over the loins, the crupper, and the inſertion of the tail, one half of which is black and the other white, whereas the back of the chinch is nearly all the ſame colour.

Kalm, ſpeaking of this animal, ſays, " one of them came near the farm where I lived.

It was in winter, and during the night; the dogs that were upon the watch purſued him until he diſcharged his urine againſt them. Although I was in bed, and he at that time had got to ſome diſtance, I thought I ſhould have been ſuffocated, and the cows and oxen, by their lowings, ſhewed how much they were affected by the ſtench. About the end of the ſame year another of thoſe animals crept into our cellar, but did not exhale the ſmalleſt ſcent. A fooliſh woman, however, perceiving him one night by the ſhining of his eyes, diſturbed and killed him; from that moment the ſtench began to ſpread, the whole cellar was inſtantly filled with it to ſuch a degree that the woman kept her bed for ſeveral days, and all the meat, bread, and other proviſions, in the place, were ſo infected that they were obliged to be thrown out of doors."

Theſe animals are ſomewhat like the European polecats; they alſo reſemble them by their natural habits, and the phyſical reſults of their generation are the ſame. The polecat is the moſt offenſive animal for its ſcent in this continent; it is only ſtronger in the ſtinkards, whoſe ſpecies are very numerous in America, whereas there is only one of the polecat race in all the old continent; for I do not believe, with

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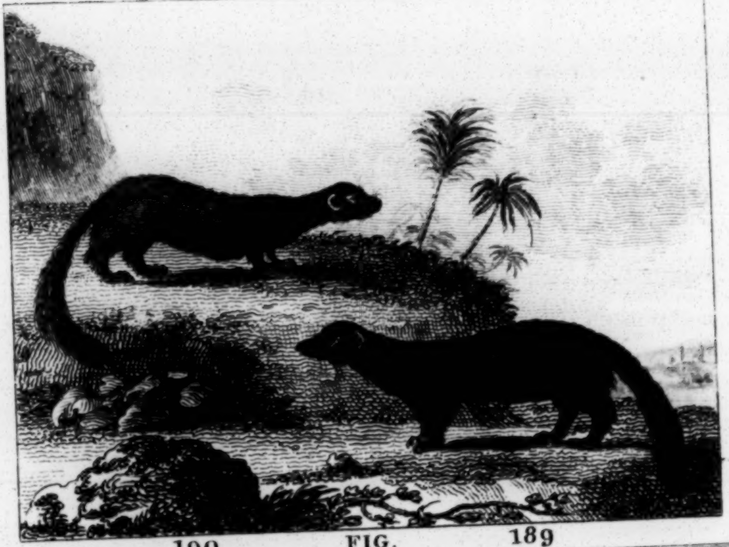

190 FIG. 189

Vison *Pecan*

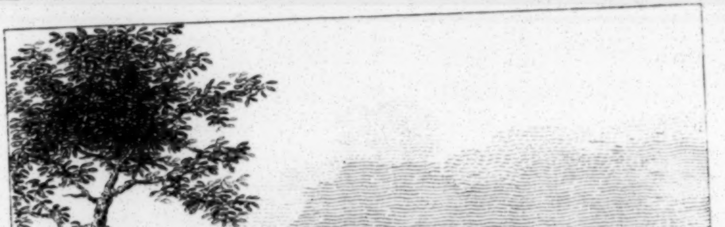

FIG. 191

Canadian Otter

with Kolbe, that the animal he calls the ſtinking otter, and which ſeems to be a real ſtinkard, exiſts as a native at the Cape of Good Hope; and poſſibly Kolbe, who is not very exact, has borrowed his deſcription from P. Zuchel, whom he has quoted as having ſeen that animal in Braſil. The animal of New Spain, called by Fernandes the *ortohua*, ſeems to be the ſame animal as the Peruvian zorille; and the *tepemaxtle*, mentioned by the ſame author, may probably be the conapate, which is found in New Spain, as well as in Louiſiana and Carolina.

THE PEKAN, AND THE VISON.

THE fur merchants of Canada have long been acquainted with the name of Pekan, without any knowledge of the animal to which it belongs. Naturaliſts have not even mentioned its name; and travellers have employed it to denote different animals, particularly ſtinkards, ſo that it was impoſſible to derive any preciſe knowledge of it from their erroneous remarks. The origin of the name of the *viſon* is no leſs difficult to be traced than that of the *pekan*, and it is only ſaid that they belong to two different animals of America. M. Aubry, in his cabinet, has two animals under this denomination, and from which, by his indulgence, we have been enabled to give a ſketch of their figures, and the following deſcription:

The pekan *(fig. 189.)* ſo ſtrongly reſembles the martin, and the viſon *(fig. 190.)* the polecat, that we are inclined to conſider them as varieties of thoſe two ſpecies. They are of the ſame make and proportion, have the ſame length of tail, quality of hair, and number of teeth and claws; from which facts there is certainly ſufficient reaſon to conclude them to be mere varieties, or at leaſt as ſpecies approaching ſo near each other, that it is difficult to point out any real difference, except the hair of the pekan and the viſon is more ſoft, brown, and gloſſy, than that of the martin and polecat; but this difference is common to them as well as to the beaver, otter, and other animals of North America, whoſe fur is more beautiful than thoſe of the ſame kind of animals in the north of Europe.

THE SABLE.

ALMOST every naturaliſt has treated of this animal without knowing any thing more of it than its ſkin. M. Gmelin is the firſt who has given its figure and deſcription, from having ſeen two living ones at the Governor's of Tobolſki. " The ſable (ſays M. Gmelin) reſembles the martin in his ſhape and habit of body, and the weaſel in the number of his teeth: he has ſix long inciſive teeth, a little turned back, two long canine teeth in the lower jaw, and ſmall ſharp teeth in the upper; he has very large whiſkers about the mouth; and his feet are broad, and armed with five claws. Theſe characters were common to theſe two ſables, but one of them was of a dark brown, excepting the ears and throat, where the hair was rather yellow; the other, which was ſmaller was more of a yellowiſh tincture, its ears and throat being alſo much paler. Theſe are the colours they both have in winter, and which they change in the ſpring, the former becoming of a yellow brown, the other of a pale yellow. I have often admired the agility of theſe animals. Whenever they perceived a cat they fixed themſelves in an erect poſture on their hind legs, as if they were preparing for an attack. Their inquietude in the night was alſo remarkable, that being the natural time for ſeeking their prey, whereas in the day, eſpecially after feeding, they generally ſlept an hour at a time, during which they might be taken up, rolled about, or carried to any diſtance without the ſmalleſt hazard of diſturbing them.

Theſe animals inhabit the banks of rivers in ſhady places, and alſo the thickeſt woods: they leap with great eaſe from tree to tree, and are ſaid to be afraid of the ſun; the rays of which tarniſhes the luſtre of their robes in a very ſhort time. It has alſo, though erroneouſly, been aſſerted that they conceal themſelves in holes, and remain torpid during the winter, whereas that is the chief time for hunting them, as their ſkins are then in the greateſt perfection. They live on rats, fiſh, and wild fruit. They have the ſame diſagreeable odour common to animals of this kind, and which is ſtrongeſt during their rutting ſeaſon. They are moſt numerous in Siberia, being very few in Ruſſia, and ſtill leſs in Lapland and other northern countries. The blackeſt furs are the moſt eſteemed. The difference of this ſkin and which ſo particularly diſtinguiſhes it from all others, conſiſts in the fur having no grain, but rubbed any way, is equally ſmooth and irreſiſting; whereas, the furs of all other animals, rubbed againſt the grain, give a ſenſation of roughneſs from their reſiſtance.

The ſable is chiefly hunted by condemned criminals, who are ſent from Ruſſia into theſe dreary and extenſive foreſts, which, for a great part of the year, are covered with ſnow. Theſe unfortunate wretches remain there many years, and are obliged to furniſh a certain number of ſkins annually: they only employ a ſingle ball to kill this animal that they may damage the fur as little as poſſible; ſometimes, inſtead of fire-arms, they make uſe of the croſs-bow and very ſmall pointed arrows. As the ſucceſs of this hunting requires addreſs and great aſſiduity, the officers are permitted to encourage the criminals, by allowing them to ſhare among themſelves the ſurplus of the number they are obliged to procure; and this in a few years, frequently amounts to a conſiderable ſum.

Some naturaliſts have imagined the ſable to be the *ſatherius* of Ariſtotle, and their conjecture ſeems to be well founded. The fineneſs of the ſable's fur indicates that he often goes into the water; and ſome travellers aſſert, that the greateſt numbers are found in ſmall iſlands; Ariſtotle calls the *ſatherius* a water animal, and joins it to the beaver and the otter. We muſt alſo preſume, that when Athens was in its height of magnificence, theſe beautiful ſkins were not unknown to the Athenians, and that the animal which ſupplied them had ſome name affixed to him, and we know of no one that can be applied to the ſable with greater propriety than that of *ſatherius*. If it is a fact, that the ſable eats fiſh, and often dwells in the water, he muſt alſo have a place among the number of amphibious animals.

THE LEMING.

OLAUS MAGNUS is the firſt who has taken notice of the Leming; and all Geſner, Scaliger, Ziegler, Johnſton, and others have ſaid, reſpecting him is extracted from that author. But Wormius, who made very ſtrict reſearches, ſpeaks more particularly. " The leming (ſays he) is of the ſhape of a mouſe, but has a ſhorter tail: his body is about five inches long, and is covered with fine hair of various colours. The extremity of the upper part of the head, the neck and ſhoulders are black, and the reſt of the body is reddiſh, intermixed with ſmall black ſpots of various figures excepting the tail, which is brown, and not above half an inch long. Some of them have red hairs about the mouth, reſembling whiſkers, ſix of which are conſiderably longer than the reſt. The mouth is ſmall, and the upper lip divided like the ſquirrel. Two ſharp, inciſive, and crooked teeth, ſhoot from the upper jaw, the roots of which penetrate to the orbit of the eyes: in the lower jaw they have teeth conformable to the upper; a little diſtance from theſe on each ſide are placed three grinders. The tongue is pretty large, and extends to the extremity of the inciſive teeth. The remains of the food found in the throat of this animal, induces us to imagine he ruminates. The eyes are little and black; the ears round and inclining towards the neck; the legs before are ſhorter than thoſe behind; the feet are cloathed with hair, and armed with five very ſharp and crooked claws; the middle claw is the longeſt and the fifth is like the ſpur of a cock, ſometimes placed very high up the leg. The hair on the belly is whitiſh, bordering a little on yellow, &c."

This animal, though its legs are very ſhort, runs very ſwift. They generally inhabit the mountains of Norway and Lapland, from whence they ſometimes deſcend in ſuch great numbers, that the inhabitants look on their arrival as a terrible ſcourge, which there is no poſſibility of preventing. They move, for the moſt part, in the night, and remain ſtill during day. It is in vain attempts are made to ſtop their progreſs, for though thouſands are deſtroyed, myriads ſeem to ſucceed. They generally move in lines, about three feet from each other, and exactly parallel; and their march is always directed from the north-weſt to the ſouth-weſt. Wherever their motions are directed nothing can turn them aſide; if a lake, or river, interrupts their progreſs, they all take to the water and ſwim over it; even a fire, or a well, does not turn them out of their line of direction; they boldly plunge into the flames, or leap down the well, and are ſometimes ſeen climbing up on the other ſide. If they are interrupted by a boat, while they are ſwimming acroſs the river, they mount directly up its ſides, and the boatmen, who know how vain reſiſtance would be, calmly ſuffer the living torrent to paſs over, which it does without farther damage; and if they meet with a ſtack of hay or corn, they gnaw their way through. Happily, however, they never enter an houſe to deſtroy the proviſions, but conſume every root and vegetable that they meet, and lay waſte every garden, meadow, or field of corn that comes in their way. If a man ventures to attack one of them, the little animal is no way intimidated by the diſparity of ſtrength, but furiouſly flies up at his opponent, and whereever he faſtens, it is not eaſy to make him quit his hold; and when thus attacked they have a kind of bark ſomewhat like that of little dogs.

An enemy ſo numerous and deſtructive, would quickly render the countries where they appear utterly uninhabitable, did it not fortunately happen, that the ſame rapacity that animates them to deſtroy the labours of mankind, at laſt impels them to deſtroy each other. After committing incredible devaſtations, they at laſt ſeparate into two armies, oppoſed with deadly hatred, along the coaſts of the larger lakes and rivers. The Laplanders, who obſerve them thus drawn up, inſtead of conſidering their mutual animoſities as an happy riddance of the moſt dreadful peſt, form ominous prognoſtics from the manner of their engagements: they conſider their combats as a preſage of war, and expect an invaſion from the Ruſſians or Swedes. The two diviſions, however, continue their engagements, and from that time they begin to diſappear, nor is it well known what becomes of either the conquerors or the conquered. Some ſuppoſe that they ruſh into the ſea, others that they kill themſelves, as ſome are found hanging on the forked branches of a tree; and others that they are deſtroyed by the young ſpring herbage. But it is moſt probable, that having conſumed the vegetable productions of the country, they then fall upon and devour each other. However this may be, they die in ſuch numbers, that their carcaſes have been known to infect the air, and to produce malignant diſorders. They ſeem alſo to infect the plants which they gnaw, as the cattle often die that afterwards feed in the places where they paſſed. In fine weather, they go in droves into the water, but no ſooner does the wind riſe, than they are all drowned. As the inhabitants know not from whence they come, it is a vulgar opinion that they fall from the clouds with with the rain *.

The

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* Scheffer's Hiſt. Lapland, Phil. Tranſ. &c.

The male is generally larger, and its ſpots bigger than thoſe of the female. The fleſh of the lemings is horrid food, and their ſkins, though covered with a very beautiful fur, is of too little conſiſtence to be ſerviceable.

THE SEA OTTER.

THEVET ſays, "the Saricovienne, or Sea Otter, is found by the ſides of the river Plata; it is an amphibious animal, and lives as much in the water as upon land; it is to full as large as a cat, its ſkin is a very dark grey, nearly black, and is extremely ſoft; its feet are webbed like thoſe of water fowls; and its fleſh is very good, and even delicate."

Naturaliſts do not ſeem to have been acquainted with this animal, nor to have known that the *carigueibeju* of Braſil, which is certainly the ſame, had membranes between the toes, for Marcgrave, who has given a deſcription of it, totally omits this eſſential character. I am alſo of opinion that the *guachi*, mentioned by Gumilla, which is a ſpecies of otter in

South America, is the ſame as the ſaricovienne. Marcgrave and Deſmarchais deſcribe it to be as big as a middling ſized dog; that the top of its head is round, and its noſe long, that its teeth and whiſkers reſemble thoſe of the cat; that it has ſmall black eyes, round ears, five toes on each foot, with a kind of thumb ſhorter than the others, and all armed with brown claws; that its hair, which is ſhort and ſoft, is black on the body, and has a white ſpot under the chin; that its voice is ſomewhat like that of a young dog; and notwithſtanding it lives principally on crabs and fiſh, its fleſh is very good, and its ſkin makes a good fur.

THE CANADIAN OTTER.

THIS Otter, (*fig.* 191.) which is larger than ours, and which muſt be a native of the north of Europe, as well as of Canada, occaſioned me to enquire whether it was not the ſame animal as that called by Ariſtotle the *latax*, which, he ſays, is much larger and ſtronger than the common otter. But his obſervations do not entirely agree with the animal in queſtion, and therefore as it perfectly reſembles the common otter in other reſpects, I judged that it was not a particular ſpecies, but only a ſimple variety; and as the Greeks, eſpecially Ariſtotle, have taken great care not to give different names, but to diſtinct ſpecies, we are convinced the *latax* is another animal. Beſides, as the otters, like the beavers, are commonly larger, and their hair is finer, and of a more beautiful black in America than in Europe; this Canadian otter ought, in fact, to be larger and blacker than our otter. But in attempting to diſcover what the *latax* of Ariſtotle might be, I conjectured that it was the ſame animal as Belon calls the *marine wolf*.

Ariſtotle mentions ſix amphibious animals, of which only three are known to us, namely, the ſeal, the beaver, and the otter; the three others, the *latax*, the *ſatherion*, and the *ſatyrion*, ſtill remain unknown, becauſe their names are only mentioned without any deſcription of them. In this caſe, as in all thoſe which we cannot draw any direct induction from a knowledge of the object, we muſt have recourſe to the mode of excluſion: but we cannot make uſe of that mode with any ſucceſs, unleſs we are nearly acquainted with every particular; when that is the caſe, we can conclude a negative from the poſitive. For example, I believe that by long ſtudy, I have attained a knowledge of almoſt every quadruped. I know that Ariſtotle could not have had any knowledge of thoſe peculiar to the continent of America. I alſo know thoſe which are amphibious, from which I ſeparate thoſe that belong to America, as the tapir, the cabiai, the ondatra, &c. and then there remains only the amphibious animals of our own continent, namely, the hippopotamus, the walrus, or ſea cow, the ſea wolf of Belon, the beaver, the otter, the ſable, the water-rat, the Muſcovy muſk-rat, the water ſhrew-mouſe, and we may include the ichneumon, which ſome have looked upon as an amphibious animal, and ſtiled it the Egyptian otter. I retrench from this number the walrus, or ſea cow, the ſeal, or ſea cow, which being only met with in the northern ſeas, was not known to Ariſtotle; I alſo retrench the hippopotamus, the water-rat, and the ichneumon, becauſe he ſpeaks of them in another part of his work by their proper names; and I likewiſe retrench the ſeal, the beaver, and the otter, which are well known, and the water ſhrew-mouſe, becauſe it is too much like the land one to have received a different name. There then remains the ſea wolf of Belon, the ſable, and the Muſcovy muſk-rat, for the *latax*, the *ſatherion*, and the *ſatyrion*. Of theſe three animals, the ſea wolf of Belon is the only one that is larger than the otter, therefore it alone can repreſent the latax; conſequently the ſable and the Muſcovy muſk-rat, muſt repreſent the *ſatherion* and the *ſatyrion*. It muſt, however, be perceived that theſe conjectures, which I believe to be well founded, are not among the number which time can elucidate, unleſs ſome Greek manuſcripts ſhall be diſcovered which are unknown at preſent, where theſe names are made uſe of, and explained by new indications.

THE SEAL, THE WALRUS, AND THE MANATI.

SEAL, Walrus, and Manati, are rather generic denominations than ſpecific names. Under that of the Seal, we ſhall comprehend, firſt, the *phoca* of the ancients, which is probably the ſame animal as the ſeal; 2. The common ſeal, which we call the *ſea-calf*; 3. The great ſeal, of which Mr. Parſons has given a figure and deſcription in the Philoſophical Tranſactions, No. 469; and 4. The very large ſeal, which is called the *ſea-lion*, the figure and deſcription of which is given in Anſon's Voyages.

By the *walrus* we underſtand thoſe animals commonly called *ſea-cows*, or *ſea-horſes*. We know of two ſpecies of this animal, one found only in the northern ſeas, and the other only in the ſouthern, which is called *dugan*, or *India walrus*. And laſtly, under that of *manati*, we comprehend thoſe called *lamantins*, or *ſea-oxen*, in St. Domingo, and other parts of South America, as well as that of Senegal, and other parts of the coaſt of Africa, and which ſeem to be only varieties of the American ſpecies.

The ſeal and the walrus approach nearer quadrupeds than to cetaceous animals, becauſe they have a kind of feet. But the manatis, which have only two before, are more of the cetaceous tribes than the quadrupeds. But they differ from every other animal by the following ſtriking character. Theſe animals alone can equally live in air and in water, and conſequently the only ones we can properly term

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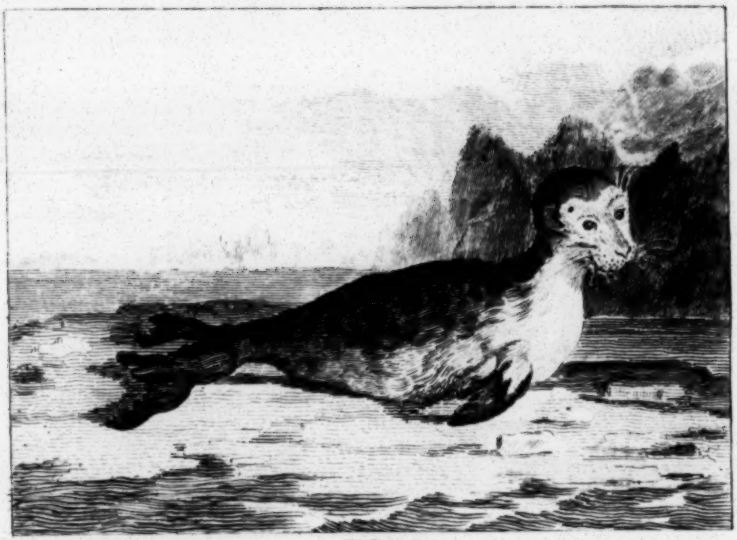
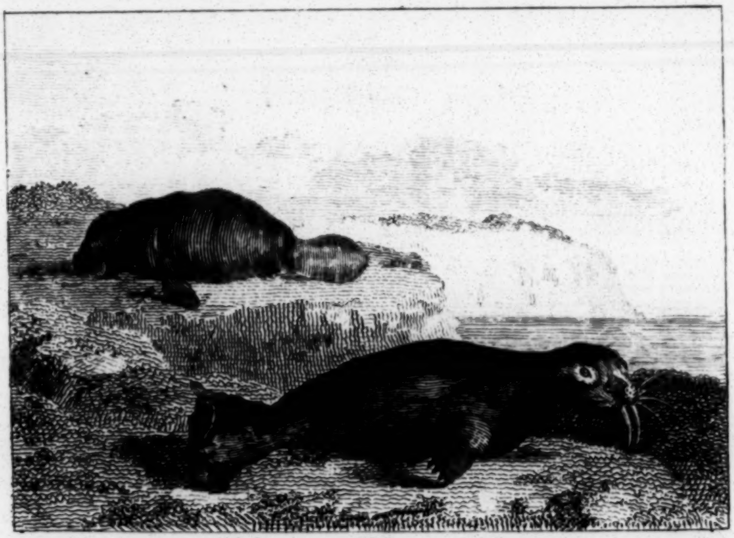


FIG. 192
Seal



194 FIG. 193
Monati *Walrus*

term *amphibious*. In man, and the other tereſtrial viviparous animals, the *foramen ovale* of the heart, which permits the fœtus to live without reſpiration, is ſhut at the moment of its birth, and remains cloſed during life. In theſe, on the contrary, it is always open, notwithſtanding the females bring forth their young on land; and their reſpiration begins and operates immediately after birth, as it does in every other animal. By means of this perpetual aperture in the ſeptum, ſubſiſting and permitting the communication of the blood from the *vena cava* to the *aorta*, theſe animals have the advantage of breathing or not at pleaſure. This ſingular property is common to all three; but each has peculiar faculties, which we ſhall notice as far as in our power, in the hiſtory of the different ſpecies.

THE SEAL.

THE Seal (*fig.* 192.) in general has a round head, like the human ſpecies; a broad muzzle like the otter; eyes large and elevated; little or no external ears, having only two auditory paſſages on the ſides of the head; whiſkers about its mouth; teeth ſomewhat reſembling thoſe of the wolf; the tongue forked at the point; the body, hands, and feet, covered with a ſhort and briſtly hair; no arms but two membranes, like hands, with five fingers terminated by as many claws; no legs, but two feet exactly like the hands, except being only larger and turned backwards, as if deſigned to unite with a very ſhort tail, which they accompany on each ſide; the body is thickeſt at the breaſt, from whence the animal tapers down to the tail like a fiſh. It is ſo ſtrange an animal that it ſerved as a model for the poets to form their tritons, ſyrens, and other ſea deities; whom they feigned to have the head of a man, the body of a quadruped, and the tail of a fiſh. In fact, he ſeems to reign ſuperior in this empire, by his voice, figure, and intelligence, which he poſſeſſes equally with any land animal, he is ſo far above the order of fiſhes, that he ſeems not only to belong to a different order of beings, but to another world. This amphibious animal, though of a nature very diſtant from that of our domeſtic animals, yet ſeems ſuſceptible of a kind of education. He is reared by putting him often in water, he is taught to give a ſalute with his head and his voice; he will come when called upon, and gives many other ſigns of intelligence and docility.

His brain is proportionably larger than in man: his ſenſations are as perfect, and his intellects as active, as thoſe of any quadruped; both are ſtrongly marked by his docility, his ſocial qualities, his ſtrong inſtinct for the female, his great attention towards his young, and by the expreſſive modulation of his voice, which is ſuperior to that of any other animal. His body is likewiſe firm and large; he is very ſtrong and armed with ſharp teeth and claws. He alſo enjoys many particular and ſingular advantages. He can, with perfect eaſe, endure heat or cold; he feeds indifferently on graſs, fleſh, or fiſh; and he can equally live on ice, land, or in the water. This animal, with the walrus alone, deſerve the name of *amphibious*. They alone have the *foramen ovale* open, conſequently they are the only animals who can exiſt without reſpiration, the elements of air and water being equally agreeable. The otter and the beaver cannot properly be termed amphibious, as the air is their real element, for not having this aperture thro' the ſeptum of the heart, they cannot remain any length of time under the water, but are obliged to quit

it,

it, or raiſe their heads out of it to have the benefit of reſpiration.

But theſe great advantages are counterbalanced by imperfections ſtill greater. The ſeal may be ſaid to be deprived of the uſe of his limbs, as his arms, thighs, and legs are almoſt entirely ſhut up within his body, while nothing appears without but his hands and feet, which are, it is true, furniſhed with five fingers or toes, but they are ſcarcely moveable, being united by a ſtrong membrane, ſo that they might more properly be called fins than hands and feet, being more adapted for the purpoſe of ſwimming than walking. Beſides, the hind feet are turned backwards, therefore entirely uſeleſs upon land, ſo that when the animal is obliged to move he drags himſelf forward like a reptile, and with efforts much more painful, for as he cannot bend himſelf in an arch, like the ſerpent, to obtain the ſupport of different parts, and ſo advance by the reaction of the ground, he would remain like a lump on the earth if it were not for his hands and tail, and with which he ſeizes any thing within his reach with ſuch dexterity that he drags himſelf up the ſteepeſt ſhores, rocks, and even ſhoals of ice, however ſteep or ſlippery.

By this method he moves with a much greater degree of ſwiftneſs than could be expected, and oftentimes, though wounded, eſcapes the purſuit of the hunters.

The ſeal is a ſocial animal, at leaſt great numbers generally frequent the ſame places. Their natural climate is the north, but they are alſo met with in the temperate and even hot countries, for they are ſeen on the ſhores of almoſt all the ſeas in the univerſe. This ſpecies varies in ſize, colour, and figure, according to the difference of climates. We have ſeen ſome of theſe animals alive, and many of their ſkins have been ſent to us; out of theſe we have choſen two for our preſent ſubject; the firſt is the common ſeal of our European ſea, of which there are many varieties. We have ſeen one, the proportions of whoſe body ſeemed to differ from any other, its neck being ſhorter, its body longer, and its claws larger; but theſe differences are not ſufficient to conſtitute a diſtinct ſpecies. The ſecond is the ſeal of the Mediterranean and ſouthern ſeas, which we preſume to be the *phoca* of the ancients, and a diſtinct ſpecies, for it differs from the others in the quality and colour of the hair, which is flowing, and almoſt black, whereas that of the common kind is grey, and of a briſtly nature. Its teeth and ears are alſo different, for it has a very ſmall external ear, which the other has not ; its inciſive teeth are likewiſe terminated with two points, whereas the teeth of the other are ſmooth and ſharp, like thoſe of the dog, wolf, and other quadrupeds. Its arms, or fins, are alſo ſituate lower, that is to ſay, more backward. Neverthelefs, theſe diſagreements are, perhaps, only varieties depending on the climate, and not ſpecific differences ; eſpecially as in places where the ſeals abound, there are numbers of them found larger and ſmaller, thicker and thinner, and of different colours according to their ſex and age.

From a ſimilarity, which appeared at firſt ſight but trivial, and by ſome fugitive accounts, we were induced to ſuppoſe this ſecond ſeal, or ſmall ſeal, was the *phoca* of the ancients. We were informed that the one we had was brought from India, and very probably it came from the Levant. It was an adult, as it had all its teeth. It was about a fifth leſs than the full-grown ſeals of our ocean, and about two-thirds leſs than thoſe of the Frozen Sea, for it was not above two feet five inches in length, whereas that deſcribed by Mr. Parſons was ſeven feet and a half long, though not arrived at its full growth, as it wanted ſeveral teeth. Now the characters given by the ancients to their phoca do not denote ſo large an animal, but agree with the ſmall ſeal, which they often compare to the otter and the beaver.

There is another circumſtance mentioned by the ancients as belonging to the phoca, tho' falſe, could never have been intimated as belonging to our ſeals, or thoſe of the northern ſeas. They ſay that the phoca's hair waves like the ſea, and by a natural ſympathy follows its motions, lying backward when it flows and forward when it ebbs, and that this remarkable effect remains long after the ſkin is ſeparated from the animal. Now this could never be attributed to our ſeals, nor to thoſe of the northern ſeas, ſince the hair of both are ſhort and ſtiff; while, on the contrary, it rather agrees with that of the ſmall ſeal, which is longer, and of a more ſupple nature, than the hair of the common kind. Beſides, Cardan poſitively aſſerts, that this property, which had been regarded as fabulous, is found to be a fact in India. Without placing more dependance on this aſſertion of Cardan's than it deſerves, we muſt allow it indicates that this circumſtance belongs to the Indian ſeal, though poſſibly it is nothing more than an electric phenomenon, the effects of which the ancients being ignorant might aſcribe it to the flowing and ebbing of the ſea. However this may be, the reaſons above-mentioned are a ſufficient foundation to preſume, that the ſmall ſeal is the phoca of the ancients; and there is alſo great reaſon to conclude, that it is the ſame as that M. Rondelatius calls the *Mediterranean phoca*, the body of which, according to him, is much longer and ſmaller, in proportion, than our ſeal. The great ſeal, deſcribed by Mr. Parſons, and which, probably, came from the northern ſeas, ſeems to be of a different ſpecies from the other two, for, notwithſtanding it had ſcarcely any teeth, it was as big again, in all its dimenſions, as the common kind. Mr. Parſons, as Mr. Klein judiciouſly remarks, ſpeaks a great deal on the ſubject of this animal in a few words, and has given the following obſervations in the Philoſophical Tranſactions, No. 469, p. 383, 386.

" A ſea-calf was ſhewn at Charing-Croſs, London, in the month of February, 1742-3. The figures given by Aldrovandus, Johnſton, and others, being deſigned in profile, lead us into two errors. 1ſt. They make the legs apparent, though they are not viſible externally in any poſition the animal is placed; and, ſecondly, the hind feet are repreſented like two fins, whereas they are two real feet, webbed like thoſe of a water-fowl, each having five toes, compoſed of three articulations, and ending with darkiſh-coloured claws. The claws on the fore-feet are very large and broad, nearly like thoſe of a mole, and ſeem to be deſigned for the purpoſes of crawling, and partly for ſwimming, as between each toe there is a narrow membrane; but the membranes of the hind feet are much larger, and only ſerve to row the animal along when in the water. It was a female, and died on the morning of the 16th of February, 1742-3. The hairs that were about its mouth were of a horny and tranſparent ſubſtance; its ſtomach, inteſtines, bladder, kidnies, ureters, diaphragm, lungs, great blood-veſſels, and the parts of generation, were like thoſe of a cow: the ſpleen was two feet long, four inches broad, and exceedingly thin; the liver was compoſed of ſix lobes, each of which was long and thin, like the ſpleen; the gall bladder was very ſmall; the heart long, and of a ſoft texture, having a large foramen ovale, and the fleſhy parts very conſiderable. In the lower ſtomach were about four pounds weight of ſharp and angular pieces of flint, which ſeems as if the animal had ſwallowed them for the purpoſe of grinding its food. This animal is viviparous, and ſuckles its young by the mamilla, like quadrupeds, and its fleſh is firm and muſcular. Although it had attained ſeven feet and a half in length, yet it was but young, as it had ſcarcely any teeth; and it had four ſmall holes regularly placed about the navel, which were the preceding ſigns of four teats to appear hereafter."

Thus it appears there are three kinds of ſeals, which differ one from the other. The ſmall black ſeal of India and the Levant; the common ſeal of our ſeas; and the great ſeal of the northern ocean. To the firſt of theſe, therefore, we muſt refer all what the ancients have written about the *phoca*. Ariſtotle was acquainted with this animal, ſince he has deſcribed it of an ambiguous nature, an intermediate creature between aquatic and terreſtrial animals; that is, an imperfect quadruped, having no external teats for ſuckling its young, but only very apparent auditory paſſages; that its tongue is forked, and has a ſmall tail reſembling that of a ſtag. This entirely agrees with the ſeal; but he is deceived in affirming that it has no gall-bladder. Mr. Parſons, indeed ſays, that the gall-bladder of the great ſeal, which he deſcribes, was very ſmall; but M.

Daubenton found a gall-bladder in the ſeal which he diſſected proportionable to the ſize of the liver; and the gentlemen of the Academy of Sciences, who alſo met with a gall-bladder in the ſeal which they diſſected, do not ſpeak of its being remarkably ſmall.

Ariſtotle could not have had any knowledge of the great ſeal of the Frozen Sea, ſince in the time he lived all the north of Europe and of Aſia was unknown. The Romans conſidered Gaul and Germany as their north, and the Greeks knew ſtill leſs of the animals belonging to this part of the world; it is, therefore, very probable, that when Ariſtotle ſpeaks of the *phoca* as a very common animal, he only means the Mediterranean ſeal.

Theſe three ſpecies have many properties in common with each other; the females bring forth in winter, and place their young upon ſome ſand-bank, rock, or ſmall iſland. When they ſuckle their young they ſit upon their hind legs, and continue to nouriſh them in this manner for twelve or fifteen days, after which ſhe brings them to the water, accuſtoms them to ſwim, and to ſearch for their food. As each litter does not conſiſt of above two or three, her cares are not much divided, and the education of her little ones is ſoon completed. In fact, theſe animals are very ſagacious and docile; they underſtand and mutually aſſiſt each other in danger. The young diſtinguiſh their mother's voice among the bleatings of a numerous troop; and are perfectly obedient to her call. We are unacquainted with their time of geſtation; but if we judge of it from that of their growth, the length of their lives, and the ſize of the animal, it muſt be many months; the time from their birth till they attain their full growth being many years, the length of their lives muſt be proportionably long. I am inclined to believe theſe animals live upwards of an hundred years, for we know that cetaceous animals, in general, live much longer than quadrupeds; and as the ſeal is the link between both they ought to participate of the nature of the firſt, and, conſequently, live much longer than the laſt.

The voice of the ſeal may be compared to the barking of an angry dog. When young they have a ſhrill note, ſomewhat like the mewing of a cat. Thoſe that are taken early from their dams mew continually, and often die of hunger ſooner than take the food that is offered them. They bark at and endeavour to bite thoſe who injure them, and are more of a courageous than timid nature. Inſtead of being terrified at thunder and lightning it ſeems to delight them; they generally come on ſhore in tempeſts and ſtorms, and even quit their icy abodes to avoid the ſhock of the waves; at ſuch times they ſport in great numbers along the ſhore; the tremendous conflict ſeems to divert, and the heavy rains that fall to enliven them. They have naturally a diſagreeable ſcent, and which is ſmelt at a great diſtance, when there are great numbers together. When purſued they often drop their excrements, which are of a yellow colour, and of a very abominable ſcent. They have a prodigious quantity of blood, and being alſo loaded with fat, they are, conſequently, very dull and heavy. They uſually ſleep a great deal, and very ſound, and are fond of taking their repoſe in the ſun on flakes of ice, or ſides of rocks, and they may be approached very nigh without being diſturbed; and that is the uſual method of taking them. They are very ſeldom ſecured with fire-arms, for they do not immediately die, even if ſhot in the head, but plunge into the ſea, and are entirely loſt to the hunter; therefore the general method is to ſurpriſe them when aſleep, or at a diſtance from the ſea, and knock them in the head with clubs. "They are not eaſily killed, and are a long time dying (ſays an eye-witneſs), for although mortally wounded, their blood nearly exhauſted, and even ſtripped of their ſkins, yet they ſtill continue alive ; and indeed it is a ſhocking ſight to ſee them in this condition wallowing and rolling about in their blood. Theſe remarks were made on an animal we killed, about eight feet long ;, after it was ſkinned, and deprived of a greater part of its fat, yet it attempted to bite, notwithſtanding they had given him many powerful blows over the head and noſe. It even ſeized a cutlaſs with as much vigour as if it had not been wounded ; after which we pierced it through the heart and liver, from whence as much blood flowed as is contained in a young ox *."

The hunting of theſe animals is not very difficult, and is attended with great profit, the fleſh being good food, and the ſkin exceedingly ſerviceable. The Americans fill them with air, and make a kind of rafts, or ſmall boats of them: their fat yields a clear and much ſweeter oil than that drawn from the porpoiſe, or other cetaceous animals.

To theſe three kinds of ſeals already mentioned we may, perhaps, add a fourth, deſcribed in Anſon's voyages by the name of the *ſea-lion*. Theſe are found in great numbers on the Magellanic coaſts, and at the iſland of Juan

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* Recueil des Voyages du Nord, tom. ii. p. 117, &c.

Fernandes, in the South Sea. The ſea-lion reſembles our ſeal, which is very common in the ſame latitudes, but they are much larger, being from eleven to eighteen feet long, and from eight to eleven in circumference, when they have acquired their full growth. They are ſo fat that when the ſkin is taken off, the blubber is about a foot thick all round the body, and from a ſingle animal more than ninety gallons of oil may be drawn. They are, at the ſame time, very full of blood, and which, when deeply wounded, ſprings out with amazing force. Upon the throat of one of theſe animals being cut, two hogſheads of blood were taken out, beſides what then remained in its body. Their ſkins are covered with a ſhort hair of a browniſh colour, but blackiſh on the tail and feet. Their toes are united by a membrane, which does not reach to their extremity, and each of them are terminated by a claw. The ſea-lion differs from the common ſeal not only in its ſize and bulk, but alſo by other characters. The male has a kind of thick creſt, or trunk, hanging from the end of their upper jaw, about five or ſix inches long. This character is not ſeen in the females, and forms a very ſtriking diſtinction between them and the males. The ſtrong males collect together a flock of females, and permit no other male to approach them. Theſe animals are truly amphibious; they remain all the ſummer in the ſea, and go upon land in the winter; at which ſeaſon the females bring forth, but never produce above one or two at a litter, which they ſuckle.

The ſea-lions, while they are on land, feed on the herbage which grows by the ſides of the ſea. They are of a very heavy and drowſy nature, and delight to ſleep in the mire. Though very indolent and difficult to awaken, yet at thoſe times they commonly fix ſome as centinels near the place where they ſleep; and it is ſaid, that theſe centinels give loud warnings when any danger is near. Their voices are very loud and of various tones; ſometimes grunting like hogs, and ſometimes neighing like horſes. The males often fight about the females, and wound one another deſperately with their teeth. The fleſh of theſe animals is not diſagreeable to eat; particularly the tongue, which is as good as that of the ox. They are very eaſily killed, as they cannot defend themſelves, nor fly from their enemies: they are ſo exceedingly heavy, that they move with great difficulty, and turn themſelves with ſtill greater. Thoſe that hunt them have only to guard againſt coming too near their teeth, which are very ſtrong, and with which they inflict deadly wounds.

By comparing other obſervations and accounts, and from the concluſions which may be drawn from them, the ſea-lion of South America appears to be nearly the ſame animal as that found on the northern coaſts of the ſame continent. The large ſeal of Canada, ſpoken of by Denis, by the name of the ſea-wolf, and which he diſtinguiſhes from the common ſeals, may poſſibly be of the ſame ſpecies as theſe ſea-lions. "Their young, ſays this author, are bigger and longer at their birth than our largeſt hogs." Now it is certain that our ſeals is never of that ſize, even when full grown. The Mediterranean ſeal, or the *phoca* of the ancients, is ſtill leſs; therefore there only remains the ſeal Mr. Parſons has deſcribed, which agrees with that mentioned by Denis. Mr. Parſons does not ſay from whence this great ſeal was brought; but whether it came from the north of Europe, or from America, it might be the ſame as the ſea-wolf of Denis, or the ſea-lion of Anſon, for it appears to be of the ſame ſize, ſince though not nearly full grown it meaſured ſeven feet in length. Beſides the ſize, there is the moſt apparent difference between the ſea-lion and the ſeal, namely, the male of the firſt has a large creſt on its upper jaw. Now Mr. Parſons did not ſee the male; he only deſcribed the female, which had no creſt, and which perfectly reſembled the female ſea-lion, mentioned by Anſon. To theſe ſimilarities Parſons adds another ſtill more preciſe; he ſays, that the great ſeal which he ſaw had a ſtomach and inteſtines like thoſe of a cow; and the ſea-lion alſo mentioned in Anſon's voyages, is deſcribed as an animal which feeds on graſs during the whole ſummer. Hence it is very probable, that theſe two animals are formed alike, or rather they are the ſame animals, and very different from other ſeals, who have but one ſtomach, and which live entirely upon fiſh.

Rogers had ſpoken of this animal nearly in the ſame manner as is done in Anſon's Voyages. " The ſea-lion (ſays he) is a very ſtrange creature, and of a prodigious bulk; I have ſeen ſome above twenty feet long, which could not weigh leſs than four thouſand pounds. Many of them were ſixteen feet long, and muſt weigh two thouſand pounds; notwithſtanding which, I was ſurpriſed at the great quantity of oil drawn from theſe animals. Its ſhape is nearly like the ſea-calf; but its ſkin is as thick as that of an ox ; the hair is ſhort and briſtly ; the head diſproportionally large ; the mouth very wide ; the eyes of a monſtrous ſize, and the noſe, which reſembles that of the lion, has terrible whiſkers, formed of ſuch exceeding ſtiff and briſtly hair, that they might be uſed for tooth-picks. Towards the latter end of June, theſe animals go upon the iſland of Juan Fernandes to bring forth their young ; which they do at about a gun-ſhot diſtance from the edge of the ſea ; there they remain till the end of September, without moving out of the place, and without taking any nouriſhment ; at leaſt, we did not ſee them eat. I obſerved ſome which remained eight days in the ſame ſpot, and which would not have ſtirred then had they not been frightened by the report of a piſtol. At the iſland of *Lobos* in the South Sea, we likewiſe ſaw ſeveral ſea-lions, but a much greater number of ſeals."

Theſe obſervations of Woods Rogers, which agree with what is ſaid in Anſon's Voyages, ſeem to be further proofs of theſe animals living upon graſs when they are on land ; for there is but little probability that they ſhould exiſt three months without any food, and eſpecially during the time they ſuckle their young.

We find, in the Collection of Voyages to the South Seas, many remarks relative to theſe animals; but neither the deſcriptions nor circumſtances appear to be exact: for example, it is ſaid, that in the Straits of Magellan, there are ſea-wolves of ſuch an enormous ſize, that their ſkins, when ſtretched out, were ſix-and-thirty feet wide; which muſt certainly be an exaggeration. It is alſo ſaid, that on the two iſlands of Port Deſire, thoſe animals reſemble lions in the anterior part of their body, having a very long mane on their heads, necks, and ſhoulders. This is ſtill a greater exaggeration; for the ſea-lions have only a little more hair on the neck than on the reſt of the body, but which is not above an inch in length. It is likewiſe ſaid, that there are ſome of theſe animals above eighteen feet long, many about fourteen, but moſt commonly not above five. This might induce us to imagine, that there are two ſpecies, the one much larger than the other, becauſe, the author does not ſay, whether this difference proceeded from the difference in their ages, which, however, was neceſſary in order to prevent error. "Theſe animals (ſays Coreal) keep their mouths always open. Two men meet with great difficulty to kill one of theſe animals even with a ſtrong lance which is the beſt weapon can be made uſe of for that purpoſe. One female ſuckles four or five young ones, and beats away any other young that comes towards her ; from which circumſtance, I concluded they bring forth four or five young ones at a litter." This preſumption ſeems well founded ; for the great ſeal, deſcribed by Mr. Parſons, had four teats, ſituate in ſuch a manner as to form a ſquare about the navel. I thought it neceſſary to collect, and preſent the reader, every circumſtance relative to theſe animals, which are but little known ; and it is much to be wiſhed that ſome ſkilful traveller would give us a proper deſcription of them, and particularly of their internal parts, as the ſtomach, inteſtines, &c. for, if we could rely on the teſtimonies of travellers, we ſhould believe that the ſea-lions belong to the claſs of ruminating animals ; that they have ſeveral ſtomachs, and that, conſequently, they are of a far diſtant ſpecies from the ſeal, or ſea-calf, which certainly has but one ſtomach, and muſt be placed among the carnivorous animals.

THE WALRUS, MORSE, OR SEA-COW.

THE name of Sea-Cow, by which the Walrus *(fig. 193.)* is moſt generally known, has been very wrongly applied, ſince the animal it denotes has not the leaſt reſemblance to a cow: the denomination of Sea-Elephant, which others have given it is much better imagined, as it is founded on a ſingular and very apparent character. The walrus, like the elephant, has two large ivory tuſks which ſhoot from the upper jaw; and its head would entirely reſemble that of the elephant if it had a trunk; the walrus not only wants that inſtrument, which ſerves the elephant in the place of an arm and hand, but is deprived of the uſe of its arms and legs; thoſe members being, like thoſe of the ſeal, ſhut up within the ſkin, ſo that nothing appears outwardly but its hands and feet. Its body is long and tapering, thickeſt towards the neck, decreaſing by degrees, and is entirely covered with a ſhort hair. The fingers, or toes, of the hands, or feet, are covered with a membrane, and terminated by ſhort and ſharp-pointed claws. On each ſide of the mouth are large briſtles in the form of whiſkers; the tongue is hollowed, and the concha of the ears are wanting, ſo that, excepting the two great tuſks, and the want of the cutting teeth both above and below, the walrus perfectly reſembles the ſeal, being only much larger and ſtronger; the walrus is commonly from twelve to ſixteen feet in length, and eight or nine in circumference; whereas, the largeſt ſeals are not more than ſeven or eight feet. The former generally frequent the ſame places as the ſeals are known to reſide in, and they are almoſt always found together. They have the ſame habitudes in every reſpect; but there are fewer varieties of the walrus than of the ſeal; and they are more attached to one particular climate, being rarely found except in the northern ſeas, ſo that the ſeal might be known to the ancients, but the walrus could not.

Moſt travellers who have viſited the northern ſeas of Aſia, Europe, and America, have mentioned this animal; but Zorgdrager ſeems to have ſpoken moſt clearly on this ſubject, for which reaſon I ſhall ſubjoin the tranſlation of his remarks, which were communicated to me by the Marquis de Montmirail.

" There was formerly great plenty of the walrus and ſeals in the bays of Horiſont and Klock, but at preſent there are very few. Both of them quit the water in the ſummer, and reſort to the neighbouring plains, where they are ſometimes ſeen in troops of from eighty to two hundred, particularly the walrus, who will remain there ſeveral days together, till hunger obliges them to return to the ſea. This animal externally reſembles the ſeal, but he is ſtronger and much larger. Like the ſeals they have five toes to each paw, but their claws are ſhorter, and their head thicker and more round. The ſkin of the walrus is an inch thick, wrinkled, and covered with very ſhort hair of different colours. His upper jaw is armed with two tuſks, about half an ell, or an ell, in length, which are hollow at the root, and become larger as the animal grows in years. Some of them are found to have but one tuſk, the other being worn out in fighting with each other, or fallen out through age. This ivory ſells generally for a greater price than that of the elephant, as it is of a more compact and harder ſubſtance. His mouth is like that of the ox, and furniſhed with hairs which are hollow, pointed, and about the thickneſs of a ſtraw. Above the mouth are two noſtrils, through which theſe animals ſpout the water like a whale. Their eyes are red, ſparkling, and inflamed during the ſummer, at which ſeaſon, the water making too powerful an impreſſion on them, they ſtay more willingly on ſhore than at any other time. They are in great numbers about Spitzbergen. They are killed with lances, and the profit derived from their teeth and fat fully repays the trouble; for their oil is almoſt as much valued as that of the whale. Their teeth are worth as much as the oil they produce, and are preferred even to ivory. An ordinary ſize tooth will weigh three pounds, and in which caſe the two will ſell for eighteen florins, about the value of half a ton of oil, which is commonly drawn from one of them; ſo that the animal may be ſaid to be worth ſix and thirty florins. Formerly great numbers of theſe animals were ſeen upon land; but the veſſels which every year reſort in thoſe ſeas for the whale fiſhery, have ſo frightened them, that they are now retired to more ſequeſtered places; and thoſe that remain, no longer go on ſhore in troops, but either continue in the water, or diſperſe themſelves on different parts of the ice. When the hunter comes near a walrus, whether in the water, or on the ice, he darts a very ſtrong harpoon at him, which, though made expreſsly for the purpoſe, oftentimes ſlips over his hard and thick ſkin; but if it penetrates, they haul the animal with the rope annexed towards the boat, kill him with a very ſharp and ſtrong lance, and afterwards tow him to the neareſt ſhore, or flat piece of ice; they flay him, and throw his ſkin away, as it is of no manner of uſe *. They then ſeparate the teeth with a hatchet, and ſometimes cut off the head and boil it to prevent the teeth from receiving any injury; the blubber being cut into long ſlices, is barrelled up and carried on board the veſſels. The walrus is generally heavier than the ox, and as difficult to purſue as the whale; the ſkin of the latter is alſo more eaſily pierced, for a ſtrong and ſharp lance is often darted ſeveral times at the walrus without penetrating his thick ſkin. For this reaſon they always endeavour to wound him in thoſe parts where the ſkin appears tight, and even take aim at his eyes; the animal, obliged by this motion to turn his head, expoſes his breaſt or throat to the hunter, who immediately ſtrikes in

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* Apparently, Zorgdrager was ignorant that a very good hide is made of the ſkin of this animal. I have ſeen coach-harneſſes made of them, which were very firm and tough. *Hiſt. of Greenland.*

in that part, and draws the lance out again as quick as poſſible, for fear the animal ſhould ſeize it with his teeth, and wounding thoſe that attack him either with his teeth or the lance, which ſometimes happen. However, an attack ſeldom laſts long on the ice, for the walrus, whether wounded or not, ſoon plunges into the ſea; conſequently the hunters rather attack him upon land. Theſe animals are now rarely found but in the leaſt frequented countries, as the iſle of Moffen, at the back of Worland, in the neighbourhood of Horiſont and Kloch bays, and other ſecluded and more diſtant places; they alſo take the precaution to ſleep on banks of ſand, where ſhips dare not approach them. Thoſe that are met with, inſtructed by the perſecutions they have ſo often experienced, are ſo much on their guard, that they always keep pretty near to the water, and immediately plunge in on being approached. I experienced this fact myſelf, having met with a troop of thirty or forty on the great ſand bank at the back of Worland, ſome of which were quite cloſe to the water, and others at no great diſtance from it. We waited ſome hours before we went aſhore, in hopes they would advance farther on the plain, but as this ſtratagem did not ſucceed according to our wiſhes, we went on board our boats, and landed to the right and left of them; but we had no ſooner ſet foot on ſhore, than they all plunged into the water, and dived to the bottom, therefore the moſt we were able to accompliſh was the wounding of a few. Before theſe animals were ſo greatly perſecuted, they advanced a good way upon the land, ſo that when it was high tide, they were at a great diſtance from the ſea; and at low water being at a ſtill greater, they were eaſily attacked. The hunters would then land, and march up in their front to cut off their retreat to the ſea, and which they permitted with indifference; when thus aſſailed, each hunter generally killed one before they could regain the water; and after they had killed ſeveral, they made a kind of barrier of their dead bodies, leaving ſome of the men in ambuſh to ſlay thoſe that remained; and in this manner three or four hundred were often killed. The prodigious quantity of bones ſpread over the ſhores, ſufficiently prove how numerous theſe animals were in former times. When wounded they become extremely furious. They ſometimes ſeize the lances, and break them in pieces with their teeth; or tear them out of the hands of their enemies, and at laſt, full of rage, they put their head betwixt their paws, or fins, and in this manner roll into the ſea. When there is a great number of them together they are ſo bold as to attack the boats that purſue them, bite the boats with their teeth, and exert all their ſtrength to pierce or overturn them."

By adding to theſe obſervations of Zorgdrager thoſe which are in the Collection of Voyages to the North, and what are ſcattered in other accounts, we have a tolerable complete hiſtory of this animal. By theſe relations we find that this ſpecies was formerly much more diffuſed than at preſent; they were found in the ſeas of the temperate zones, in the Gulph of Canada, on the coaſts of Acadia, &c. but they are at preſent confined to the frozen zones, and even in thoſe there are but few in any of thoſe parts which are frequented. There are very few in the Frozen Seas of Europe, and ſtill leſs in thoſe of Greenland, Davis's Straights, and other parts of North America, the whale fiſhery having diſturbed and driven them away. Towards the end of the 16th century the inhabitants of St. Malo found them in great numbers in the Ramée iſlands; and it is not an hundred years ſince the merchants of Port-Royal thought it worth ſending to Cape Sable and Cape Fourchu to hunt theſe animals, but they have now entirely forſaken thoſe climates, and are only to be found in great numbers in the frozen ſea of Aſia, from the mouth of the Oby to the eaſtern point of that continent; they are ſeldom ſeen in the temperate, and thoſe found in the torrid zone are of a different ſpecies; they ſeem averſe to the ſouthern ſeas, and therefore are not met with towards the ſouth pole, although the great and ſmall ſeals of the north are there in great plenty.

We find, however, that the walrus can live, at leaſt for ſome time, in a temperate climate. Edward Worſt ſpeaks of having ſeen one alive in England, which was three months old; that it was put in water for a ſhort time only each day, and that it went upon the ground. He does not ſay the heat of the air incommoded it, but, on the contrary, that when it was touched it had the appearance of a robuſt and furious animal, and that it had a very ſtrong reſpiration through its noſtrils. This young walrus was about the ſize of a calf, and very much like a ſeal. Its head was round, its eyes large, its noſtrils flat and black, which it opened and ſhut at pleaſure. It had no external ears, but only two auditory paſſages. The mouth was ſmall, and the upper jaw was furniſhed with whiſkers of thick, rough, and cartilaginous hairs;

hairs ; the lower jaw was triangular, the tongue thick and ſhort, and each ſide of the mouth armed in-the inſide with flat teeth. The feet were broad, and the hind part of the body perfectly reſembled that of a ſeal. It might be rather ſaid to crawl with this hind part than to walk ; the fore-feet were turned forward, and the hind ones backward ; they were all divided into five toes, and covered with a ſtrong membrane. The ſkin was thick, hard, and covered with a ſhort, ſoft, aſh-coloured hair. This animal grunted like a boar, and ſometimes cried with a deep and ſtrong voice. It was brought from Nova Zembla, and had not any tuſks, but on the upper jaw there appeared two knobs, from whence in time they would ariſe. It was fed with a ſort of gruel made of barley or oatmeal. It followed its maſter when he offered it food, but always with a ſeeming reluctance, as it grunted all the time, and would ſometimes growl at him with a degree of fury.

This account, which gives a tolerable juſt idea of the walrus, evinces that it can live in a temperate climate ; however there is no appearance of its being able to endure a ſtrong heat, nor of its having ever paſſed from one pole to the other. Several travellers ſpeak of certain ſea-cows they ſaw in India, but thoſe were of a different ſpecies. The walrus is eaſily diſtinguiſhed by its long tuſks, a character which we find peculiar to that and the elephant.

The genital member of the male has a large bone like the whale. The female brings forth in winter upon land, or on the ſhoals of ice, and ſeldom produces more than one, which when born is about the ſize of a hog of a year old. We do not know how long this animal goes with young, but if we judge by the time of their growth and ſize we muſt ſuppoſe it to be upwards of nine months. The walrus cannot continue in the water for a long time together, but is obliged to come on ſhore to ſuckle its young, and for other occaſions. When they are obliged to climb up ſteep ſhores, or large pieces of ice, they make uſe of their teeth and hands to hold by, and drag along the heavy maſſes of their bodies. They are ſaid to feed upon the ſhell-fiſh which are at the bottom of the ſea, and to grub them up with their ſtrong tuſks. Others aſſert that they live on a ſea-herb with broad leaves, and that they eat neither fleſh nor fiſh. But I imagine all theſe opinions have but a weak foundation, it being probable that the walrus, like the ſeal, lives on prey, eſpecially on herrings, and other ſmall fiſh, for he does not eat at all when upon land, and it is chiefly hunger which obliges him to return to the ſea.

THE DUGON.

THE Dugon is an animal which inhabits the African and Indian ſeas. We have only ſeen two heads of this ſpecies, which reſembled that of the walrus more than any other animal. It had, like that, very deep ſockets for the teeth, from which in the upper jaw grew two teeth about the length of half a foot, and might more properly be termed cutting teeth than tuſks. They extend not in a direct manner from the mouth, like thoſe of the walrus, but are much ſhorter and thinner, beſides they are ſituated cloſe to each other in the fore part of the jaw, whereas the tuſks of the walrus leave a conſiderable ſpace between them, and are placed at the ſide of the upper jaw. The grinders of the dugon likewiſe differ in number, ſhape, and poſition, from thoſe of the walrus, therefore we make not the leaſt doubt but they are animals of different ſpecies. Some travellers have confounded the dugon with the ſea-lion. Inigo de Biervillas ſays, that a ſea-lion was killed near the Cape of Good Hope, which meaſured ten feet in length and four in circumference. Its head was like that of a calf about a year old; it had a briſtly beard; its eyes large and frightful; its ears ſhort, its feet very broad, and its legs ſo exceedingly ſhort, that its belly dragged upon the ground: he adds, that it had two tuſks about half a foot long. This laſt, however, does not agree with the ſea-lion, which has no tuſks, but teeth nearly reſembling thoſe of the ſeal; and this difference made me imagine it was not a ſea-lion but the animal we call the *dugon*. Other travellers ſeem to have indicated it by the name of the ſea-bear: Spilſberg and Mandelſo relate, "that there are animals on the iſland of St. Elizabeth, on the coaſt of Africa, which ſhould rather be denominated ſea-bears than ſea-wolves, as their hair, colour, and head, greatly reſemble thoſe of that animal, the ſnout only being more pointed; that they alſo move like the bear, except dragging their hind legs after them; that theſe amphibious animals have a frightful appearance, and do not ſhew any fear at the ſight of man: their teeth are ſo very ſtrong as to bite through the ſhaft of a javelin; and although their hind-legs appear crippled, yet they move with ſuch ſwiftneſs that it is very difficult to come up with them." Le Guat ſpeaks of having ſeen a ſea-cow, of a reddiſh colour, near the Cape of Good Hope; its body was round and thick, its eyes full and large, long tuſks, and its muzzle was turned a little upwards. A ſailor aſſured him, that this animal, of which he ſaw only the fore part of its body, the reſt being in the water, had feet. This ſea-cow of Le Guat's, the ſea-bear of Spilſberg, and the ſea-lion of Biervillas, ſeem to be the ſame animal as the *dugon*, the head of which was ſent us from the iſle of France, and which, conſequently, is to be met with in the ſouthern ſeas, from the Cape of Good Hope to the Philippine iſlands: as for the reſt we cannot affirm that this animal, which reſembles the walrus by its head and tuſks, has, like that, four feet. We only preſume from analogy, and the teſtimony of travellers, that they have thoſe members; but as the analogy is not very great, nor the teſtimonies of travellers ſufficient preciſe to decide this point, we ſhall ſuſpend our judgment thereon till we are able to obtain better information.

THE MANATI.

THIS animal is called in French lamantin, and ſuppoſed by ſome to have derived that name from the lamentable cries it makes, but which is merely fabulous, as it is only a corruption of the real word *manati*, which in the Spaniſh indicates an animal with hands.

This animal may be indiſcriminately called the laſt of beaſts or the firſt of fiſhes, for, in fact, it cannot poſitively be pronounced either the one or the other. The Manati, *(fig.* 194.*)* partakes of the nature of the former, by its two fore-feet, or hands; but the hind-legs, which are almoſt wholly concealed in the bodies of the ſeal and walrus, are entirely wanting in the manati; inſtead of two ſhort feet, and a ſmall narrow tail, which the walrus carries in an horizontal direction, the manati has only a large tail, which ſpreads out like a fan, ſo that at firſt ſight it ſeems as if the tail of the firſt was divided into three parts, and that in the latter they were all united into one;

but from a more attentive inſpection, and particularly by diſſection, we find that there is no ſuch union, that there are no veſtiges of the bones which form the thighs and legs, and that the tail of the manati is compoſed of ſimple iſolated vertebræ, like thoſe of cetaceous animals, who have no feet. Therefore this animal partakes of the nature of a fiſh by the hind parts of its body, and of a quadruped by the two fore-feet, or hands, on each ſide of the breaſt. Oviedo ſeems to be the firſt author who has given any ſort of hiſtory or deſcription of the manati; he ſays, "This is a very clumſy and miſhapen animal, having the head thicker than that of an ox, with ſmall eyes, and two feet, or hands, placed near the head, which ſerve him for the purpoſe of ſwimming. He has no ſcales, but is covered with a ſkin, or rather a thick hide: he is a peaceable animal, and feeds upon the herbage by the river ſides, which he can reach without entirely leaving the water, ſwimming on the ſurface of it to ſeek his food. To take the manati they row themſelves in a boat, or on a raft, as near the animal as poſſible, and then dart a very ſtrong arrow at him, to the end of which a very long cord is faſtened: feeling himſelf wounded he inſtantly ſwims away, or plunges to the bottom;

but the cord has a cork, or piece of wood, faſtened to the end of it, to ſerve as a buoy, and direct them which way he takes. When the animal begins to grow faint and weak throw the loſs of blood he ſwims towards the ſhore; the cord is then wound up, and the animal drawn within arm's length of the boat, where they diſpatch him with ſpears, &c. He is ſo heavy as to be a ſufficient load for two oxen to draw. His fleſh is excellent eating, is much eſteemed when freſh, but more ſo when cut in pieces and pickled; in which ſtate it acquires the flavour of the tunny fiſh. Some of theſe animals meaſure more than fifteen feet in length by ſix feet in thickneſs; the body becomes narrower towards the tail; and then ſpreads gradually broader towards the end. As the Spaniards give the appellation of hands to the fore-feet of all quadrupeds, and as this animal has only two fore-feet, they have given him the name of *manati*, or the animal with hands. He has no external ears, but only two holes for the ſenſe of hearing: his ſkin is tough and hard, an inch thick, of an aſh colour, and has a few ſcattered hairs, or briſtles, on it. The female has two paps on her breaſt, and generally brings forth two young ones at a time, which ſhe ſuckles." All theſe facts mentioned by Oviedo are true, and it is remarkable that Cieça, and many others after him, ſhould affirm, that the manati leaves the water very often to feed upon land. They have been led into this error from the analogy of the walrus and ſeals, which have this natural habit; but it is certain, that the manati never quits the water, and that he prefers freſh water to ſalt.

Cluſius ſaw and meaſured the ſkin of one of thoſe animals, and found it ſixteen feet and an half long, and ſeven feet and an half broad; the two feet were very broad, and the claws ſhort. Gomara aſſerts, that he has ſometimes met with them twenty feet long; and adds, that theſe animals frequent freſh water rivers as well as the ſea. He ſays, a young one was reared in a lake in the iſland of St. Domingo for twenty-ſix years; that he was ſo docile and tame, that he came quietly for the food which was offered to him; that he was ſo intelligent as to come out of the water when called, and to crawl to the houſe to receive his victuals; that he ſeemed delighted with the human voice; that he was fond of children, would ſuffer them to ſit upon his back, and carry them from one end of the lake to the other without plunging them into the water; and that he had no kind of fear. Theſe circumſtances cannot all be true; ſome of them ſeem adapted to the fable of the dolphin related by the ancients, for the manati cannot poſſibly crawl on the ground.

Herrera ſays little in reſpect to this animal, and only aſſerts, that although very large, the manati ſwims with ſuch facility, that his motion in the water is not heard; and that he immediately dives to the bottom on hearing any noiſe.

Hernandes, who has given two figures of the manati, one in profile, and the other in front, adds very little to what other Spaniſh authors have ſaid of this animal; he only mentions that there is a deformed beaſt called the *manati*, which inhabits the Atlantic and Pacific oceans; the deſcription of which he has taken almoſt entirely from Oviedo; and then adds that the hands of this animal has five nails like thoſe of a man; that its navel and anus are wide; that the vulva of the female is like that of the woman, and the ſexual organ of the male like that of a horſe; that the fleſh and fat are like thoſe of a hog; that the ribs and viſcera are like thoſe of a bull; that they copulate on land, the female lying on her back, and that ſhe brings forth but one young at a time, which is of a monſtrous ſize at its birth. The copulation of theſe animals cannot be effected on land, ſince they are unable to walk, but on the contrary is performed in ſhallow water. Binet ſays, that the animal is as big as an ox, and as round as a tun; that his head is ſmall, and his tail ſhort; that his ſkin is rough and thick like that of an elephant; that there are ſome of theſe animals ſo large, that one of them will yield more than ſix hundred weight of good eatable fleſh; that his greaſe is as ſweet as butter; that they delight to be near the mouth of rivers, where they browſe upon the ſea weeds, which grow on the banks; that at ſome few leagues diſtant from Cayenne, they are found in ſuch great numbers, that a few men expert in darting the harpoon, might get ſufficient to load a veſſel in one day. Father Tertre, who deſcribes the fiſhery of the manati, agrees almoſt in every reſpect with the authors we have quoted; obſerving, however, that this animal has only four toes and four claws on each foot, or hand, and adding, that he feeds on a ſhort vegetable which grows in the ſea, and which he eats nearly in the ſame manner as the ox; that having paſtured ſufficiently, he makes to the rivers and freſh waters, where he moiſtens his food; and that his belly being full, he ſleeps with his noſe half way out of the water, ſo that he can be ſeen at a diſtance; that the female brings forth two young at a time, which follow her wherever ſhe goes; and that when the mother is taken, they are ſure of having the young, becauſe they not only keep cloſe to the body when ſhe is dead, but even go continually round the veſſel which is carrying her away. This laſt circumſtance appears very ſuſpicious, and is contradicted by other travellers, who aſſert, that the manati never brings forth more than one at a time; which is agreeable to the nature of all other large quadruped or cetaceous animals, ſo that analogy alone is ſufficient to prevent our believing that the manati always brings forth two. Oexmelin remarks, that the tail of the manati is placed horizontally like that of the cetaceous animals, and not vertically like thoſe of the ſcaly brood; that he has no fore teeth, but only a calloſity as hard as a bone, with which he cuts the herbage; but that he has thirty-two grinders; that his ſight is imperfect, on account of the ſmallneſs of his eyes, which have no iris and very little moiſture; that he has very little brain; but to remedy the defect of ſight, he has a very quick ear; that he has no tongue; that the parts of generation are more like thoſe human ſpecies than any other; that the milk of the female, which he aſſerts to have taſted, is very good; that they produce but one young one at a time, which they embrace and hold with their hands; that the mother ſuckles it the ſpace of a year, after which it is able to provide for itſelf: that this animal has fifty-two vertebræ; that it feeds like the turtle, but can neither walk nor crawl upon land. All theſe facts are very exact, and even that of the fifty-two vertebræ; for M. Daubenton in one he diſſected found twenty-eight vertebræ in the tail, ſixteen in the back, and ſix, or rather ſeven in the neck. This traveller is only deceived with reſpect to the tongue, which is not deficient in the manati, but it is true, that it is affixed to the lower jaw almoſt to the extremity.

In the Voyage to the American iſlands, printed at Paris, 1722, we meet with a tolerable good deſcription of the manati, and the manner in which it is taken by the harpoon. The author perfectly agrees with all the principal facts we have already mentioned; but he obſerves, "that this animal is become very rare in the Antilles ſince the coaſts have been inhabited; and that the one which he ſaw and meaſured was fourteen feet nine inches, from the muzzle to the tail: his head was very thick, with a large mouth and lips, which were furniſhed with coarſe hairs; his eyes ſmall in proportion to his head; and he had only two holes in the ſides inſtead of ears; his neck was very thick and ſhort, and but for the wrinkles occaſioned by his motions it would be impoſſible to tell his head from his body. Some authors pretend (he adds) that this animal makes uſe of his hands, or fins, to crawl upon land: I particularly endeavoured to inform myſelf of this fact, but could not hear of any perſon who had ſeen him out of water; and indeed it is impoſſible for him to walk or crawl, ſince his fore-feet, or hands, only ſerve the female to hold the young while they ſuckle. The female has two round breaſts, which I meaſured, they were each ſeven inches in diameter, and about four in their elevation: the teat was about an inch thick; the body was eight feet two inches in circumference; the tail was like a large battledore, about nineteen inches long, fifteen inches broad at the wideſt part, and about three inches thick at the extremity. The ſkin on the back was about double the thickneſs of an ox's hide, but much thinner on the belly; it was of a ſlate colour, and of very coarſe grain, the hairs, or briſtles, were of the ſame colour as the ſkin, thinly ſcattered, but very thick and long. This animal weighed about eight hundred pounds; and with it the young one was taken which was nearly three feet long. A part of its tail was roaſted, the fleſh of which was as good and as delicate as veal. The herb upon which theſe animals feed is about eight or ten inches long, narrow pointed, tender, and of a fine green colour. This herb is ſo plenty in many places on the coaſts, that the bottom of the ſea has the appearance of a verdant meadow, and upon which the turtles alſo feed, &c." Father Magnin de Fribourg ſays, that the manati feeds on ſuch graſs on the ſhores, as it is able to reach without quitting the water; that its eyes are not bigger than a filberd nut; that its ears are ſo narrow, that a needle can ſcarcely be paſſed into them; that within the ears are found two ſmall bones, which the Indians wear about their necks; and that its cry reſembles the lowing of a cow.

Gumilla ſtates, there are immenſe numbers of manati in the Great lakes of Oronooko. " Theſe animals ſays he) weigh from five to ſeven hundred pounds each; they feed upon graſs; their eyes are ſmall, and the holes for their ears ſtill ſmaller. They paſture on the ſea ſhores when the river is low. The female always brings forth two young ones, which ſhe carries at her paps, and graſps them ſo ſtrongly with her two hands that they cannot fall off. The milk of the female is very thick. Under its thick ſkin four beds, or layers, are met with, two of which are fat, and the other two of a very delicate and ſavoury fleſh, which, when roaſted, has the ſmell of pork and the taſte of veal. Theſe animals, when a ſtorm of rain approaches, leap out of the water to a conſiderable height." Gumilla ſeems to miſtake, as well as Tertre, in aſſerting that the female brings forth two young at a time, ſince it is almoſt a certainty, as has been already obſerved, that ſhe produces no more than one.

Upon the whole, M. de Condamine, who favoured us with a drawing, he made himſelf of the manati in the Amazonian river, ſpeaks with greater preciſion than any other author on the natural habits of this animal. "Its fleſh and fat (ſays he) have a great reſemblance to veal. Father Acuna, makes its reſemblance to the ox ſtill more complete, by giving it horns, which Nature never provided. It is not, properly ſpeaking, amphibious, ſince it cannot entirely leave the water, having only two flat fins cloſe to the head, about ſixteen inches long, and which ſerve the animal inſtead of arms and hands. It only raiſes its head out of the water to feed on the herbage upon the ſhore. That of which I drew the figure was a female; it was about ſeven feet and an half long, and its greateſt breadth two feet: I have ſeen ſome of them larger. The eyes of this animal have no proportion to the ſize of its body; the orifice of its ears is ſtill leſs, and only ſeems like a hole made by a pin. The manati is not particular to the Amazonian river, being not leſs common in the Oronooko. It is found alſo, though leſs frequently, in the Oyapoc, and many other rivers in the environs of Cayenne, and on the coaſts of Guiana, and probably in other parts."

This is nearly all the preciſe matter we can collect of this animal. It were to be wiſhed that ſome of the inhabitants of Cayenne, among whom there are ſeveral admirers of Natural Hiſtory, would make ſome obſervations of this animal, and give us a deſcription of its internal parts, eſpecially thoſe of reſpiration, digeſtion, and generation. There ſeems, though we are not certain, to be a great bone in the genital member, and a foramen ovale in the heart; that its lungs are of a ſingular conformation;

and that it has ſeveral ſtomachs, like ruminating animals.

To conclude, the ſpecies of the manati is not confined to the ſeas and rivers of the new world, but exiſts alſo in thoſe of Africa. M. Adanſon ſaw manatis at Senegal, from whence he brought one of their heads, which he preſented me, and at the ſame time communicated the following deſcription of this animal, which he made on the ſpot, and which I have thought proper wholly to tranſcribe. " I ſaw many of theſe animals, the largeſt was not more than eight feet long, and weighed about eight hundred pounds. A female, which was five feet three inches long, weighed only one hundred and ninety-four pounds. They are of a dark aſh colour, and have hairs ſcattered over their bodies, very long, and like briſtles. The head is conical, and of a middling ſize, with reſpect to the bulk of the body. The eyes are round and very ſmall; the iris is of a deep blue, and the pupil black. The muzzle is almoſt cylindrical; its cheeks are nearly of an equal breadth, and the lips are fleſhy and very thick. They have no teeth but grinders, either in the upper or lower jaw. The tongue is of an oval form, and joined almoſt to the end of the lower jaw. It is remarkable that almoſt every author and traveller has deſcribed this animal with ears. I have not been able to perceive a hole ſufficient even to admit a ſmall probe. It has two arms, or fins, placed cloſe to the head, which is not diſtinguiſhable from the reſt of the body by any kind of neck, nor even any apparent ſhoulders. Theſe arms are nearly cylindrical, compoſed of three articulations, the foremoſt of which is flat, and like the palm of the hand, the fingers of which are only to be diſtinguiſhed by four claws of a bright browniſh red colour; its tail is horizontal, like that of the whale, and is partly of the form of a baker's ſhovel. The female has two breaſts, rather elliptic than round, placed near the arm-pits. The ſkin is thin on the belly, thick on the back, but thickeſt of all on the head. The fat is white, and two or three inches thick; the fleſh is of a pale red colour, and more delicate than veal. The Jalofe negroes call this animal *lereou*; it feeds on herbage, and is to be found at the mouth of the Black Sea."

By this deſcription we find that the manati of Senegal does not differ in any particular from that of Cayenne; and from a compariſon made of the head of the Senegal manati with that of a fœtus of the Cayenne lamantin by M. Daubenton, he preſumes that they are of the ſame ſpecies. The teſtimony of travellers alſo agree with our opinion; Dampier in particular ſpeaks poſitively, and his obſervations deſerve a place in our hiſtory. "It is not only in Blewfield river, which ſprings between the rivers Nicaraga and Veraga, where I have ſeen the manati: I have alſo ſeen them in the Bay of Campeachy, on the coaſt of Bocca del Drago, and Bocca del Toro, in the river of Darien, and in the ſmall ſouthern iſlands of Cuba: I have heard it ſaid that there are a few found on the north of Jamaica, and many in Surinam river, which is a very low country. I have likewiſe ſeen them at Mindanea, one of the Philippine iſlands, and on the coaſt of New Holland. This animal is fond of brackiſh water, therefore he moſt commonly inhabits thoſe rivers which border on the ſea. This is poſſibly the reaſon we never meet with any in the South Seas, where the coaſt is generally high, and the water very deep near land, except in the Bay of Panama; but even there the manati is not to be met with; but the Weſt-Indies being, as it were, a great bay compoſed of a number of ſmall ones, are generally low land and ſhallow water, and, conſequently,

ſequently, afford a food which is agreeable to the manati. They are ſometimes ſeen in ſalt water, ſometimes in freſh, but ſeldom very far from ſhore. Thoſe which inhabit the ſea, and thoſe places where there are no rivers they can enter, come to the mouth of the neareſt freſh-water rivers they can find once or twice in twenty-four hours. They feed on a narrow herbage which grows on the ſides of the ſhores, eſpecially in places where the tides or currents are not very ſtrong. They never go on ſhore, but always keep in a depth of water where they can ſwim. Their fleſh is ſweet, and very good food; their ſkin is alſo of great utility. The manati and the tortoiſe are commonly found in the ſame parts of the world, and feed on the ſame herbage."

THE NOMENCLATURE OF APES.

IN the hiſtory of theſe animals we ſhall not follow the pedantic method of ſchools, which lay down arbitrary maxims as real, and falſities as truth; ſuch documents are eagerly imbibed by children, but are judiciouſly rejected by men if not founded on ſolid principles. We ſhall, therefore, avoid ſuch imaginary methodical diſtributions, which have been of no other uſe than to heap a multiplicity, and even diſtinct ſpecies, of animals into one indiſcriminate maſs.

What I call an Ape is an animal with a flat viſage, and without a tail, whoſe teeth, fingers, nails, and hands, reſemble thoſe of the human ſpecies, and who alſo walks upright on its two feet. This definition, drawn from the nature of the animal, and its reſemblance to man, will exclude every animal that has a tail, or a long ſnout, crooked or pointed claws, or whoſe nature obliges them to walk more willingly on four feet than on two. After this fixed and preciſe rule let us examine to what animals the name of Ape can properly be applied. The ancients were only acquainted with one; the *pithecos* of the Greeks, and the *ſimia* of the Latins, is the real ape, and on which Ariſtotle, Pliny, and Galen, have inſtituted all their phyſical compariſons, and founded all their relations of the ape to mankind. But this ape of the ancients, which ſo greatly reſembles man in its external form, and ſtill more in its internal organization, nevertheleſs differs from him in an eſſential point, namely, magnitude. The ſize of the human ſpecies is generally above five feet, while that of the *pithecos* is ſeldom more than a fourth of that height. Therefore, if this animal had ſtill a greater reſemblance to the human ſpecies, the ancients would have had reaſon to regard it only as an *homunculus*, a dwarf, or a pigmy, capable only of attacking ſmall animals, while man knew how to ſubdue the elephant, and even conquer the lion.

But ſince the diſcovery of the ſouthern parts of Africa and India, another animal of this kind has been found, which poſſeſſes this attribute of ſize; an ape as tall and as ſtrong as man, and equally as ardent after a woman as its own females; a ſpecies which are ſagacious enough to make uſe of ſtones to attack their enemies, and ſticks to defend themſelves. This alſo reſembles the human ſpecies ſtill more than the pithecos; for, independent of its having no tail, a flat face, arms, hands, teeth, and nails, like thoſe of a man, and, like him, walking erect, it has a kind of viſage, with features, approaching thoſe of mankind; its ears are of the ſame form; has a beard on its chin, and not more hair on its body than man in his natural ſtate. From theſe reſemblances the more poliſhed Indians have not heſitated to aſſociate it among the human ſpecies, by the name of *orang-outang*, or wild man of the woods; while the Negroes, who are really as ſavage, and almoſt as ugly, as thoſe animals, and who are not of opinion that civilization exalts our nature, have denominated it *pongo*, which ſignifies a beaſt, and has no relation to man. This orang-outang is not only in effect a brute but a very ſingular one, which man cannot look upon, without contemplating himſelf, and being convinced that his external form is not the moſt eſſential part of his nature.

Theſe two animals, therefore, the pithecos and the oran-outang, muſt be ranked among the ape kind. There is alſo a third, to which, though more deformed, we cannot refuſe that appellation; until very lately this animal was ſcarcely known, it was brought from the Eaſt Indies by the name of *gibbon*; like the other two it walks erect, is without a tail, and has a flat face; but its arms, inſtead of being proportioned to its height, are of ſuch extraordinary length, that when it ſtands erect on its two feet, it touches the ground with its hands, without the ſmalleſt inclination of its body.

Next to theſe apes, we meet with another race of animals, which we ſhall indicate by the generic name of the *baboon*; and to diſtinguiſh them clearly from every other animal of the kind, it is neceſſary to obſerve that the baboon has a ſhort tail, a long face, a broad muzzle, with canine teeth, larger in proportion than that of man, and calloſities on its rump. By this definition, we exclude from this race all the apes which have no tails, all the monkies whoſe tails are as long, or longer than their bodies, and all the makis, loris, and other four-handed animals, that have their muzzles ſharp and pointed. The ancients never had a proper name for theſe animals ; Ariſtotle alone has pointed out one of thoſe baboons by the name of *ſimia porcaria*, but gives a very imperfect indication of it in other reſpects. The Italians firſt called it *babuino*, the Germans *bavion*, the French *babouin*, the Engliſh *baboon*, and every modern author, who has written of it in Latin, *papio*. We ſhall, therefore, term it baboon, to diſtinguiſh it from the other ſpecies ſince diſcovered in the ſouthern provinces of Africa and India. We are acquainted with three kinds of theſe animals. 1. The *baboon*, which is found in Lybia, Arabia, &c. and which, probably, is the *ſimia porcaria* of Ariſtotle. 2. The *mandrill*, which is larger than the baboon, whoſe face is of a bluiſh colour, and furrowed with deep and oblique wrinkles ;

this is a native of Guinea, and the hotteſt parts of Africa. 3. The *ouanderou*, which is leſs than the baboon and mandrill; its head and face is ſurrounded with a very thick and long hair, and has a large white beard; it is ſeen in Ceylon, Malabar, and the other ſouthern parts of India. Thus we have preciſely defined three ſpecies of the ape, and three of the baboon, and all of them very diſtinctly differing from each other.

But as Nature acts on one regular plan, connected and extended throughout all her works, and as her progreſs is always by minute degrees, there muſt be an intermediate ſpecies between the ape and the baboon. This intermediate ſpecies actually exiſts, and is, in fact, to be found in the *magot*, which fills up the chaſm between the other two. It differs from the firſt in having a long muzzle and large canine teeth; and varies from the ſecond, in not having any tail, although there is a ſmall protuberance of ſkin at that part, which has ſomething of that appearance. This animal, therefore, conſequently, is neither an ape, nor a baboon, yet, at the ſame time, partakes of the nature of both. The magot, which is a very common animal in Upper Egypt, as well as in Barbary, was known to the ancients. The

Greeks and Latins denominated it *cynocephalus*, becauſe its muzzle reſembles that of a dog. Theſe animals, then, muſt be ranged in the following order: the *oran-outang*, or *pongo*, is the firſt ape; the *pithecos*, the ſecond; the *gibbon*, the third; the *cynocephalus*, or *magot*, the fourth ape, or the firſt baboon. The *papio*, the firſt baboon; the *mandrill*, the ſecond; and the *ouanderou*, the third. This order is neither arbitrary nor fictitious, but truly agreeable to the ſteps of Nature.

After the ſpecies of apes and baboons, immediately follow the *guenons*, or *monkies*; that is, animals which reſemble the two former, but which have tails as long, or longer than their bodies. The word guenon was anciently employed, ſometimes to denote a ſmall ape, and at others, the female; it has alſo been uſed in the ſenſe we now take it, to denote the apes with long tails, and was probably derived from the word *kēpos*, which the Greeks made uſe of for that very purpoſe. Of theſe *guenons*, or *monkies*, we know of nine ſpecies, which we ſhall diſtinguiſh by different names, to avoid confuſion, and for the ſake of regularity. The firſt of theſe is the *macaque*; the ſecond, the *patas*, or *red monkey*; the third, the *malbrouk*; the fourth, the *mangabey*; the fifth, the *mone*;

mone; the ſixth, the *callitrix*, or *green monkey*; the ſeventh, the *mouſtac*; the eighth, the *talapoin*; and the ninth, the *douc*, ſo called in Cochin-china, of which country it is a native. The ancients knew only two of this claſs, the mone and the callitrix, which inhabit Arabia and the northern parts of Africa; they had no idea of any other, as they are only to be found in the ſouthern provinces of Africa and the Eaſt Indies, countries abſolutely unknown in the time of Ariſtotle. This great philoſopher, and the Greeks in general, were ſo careful to affix proper names to different animals, that they denominated the ape without a tail, *pithecos*, and the monkey with a long tail, *kēbos*, both of which they carefully drew from the moſt apparent character of theſe animals. All the apes and baboons which they knew, had an uniform colour; on the contrary, the monkey which we call *mone*, and the Greeks *kēbos*, has hair of different colours; and is vulgarly called the *variegated monkey*; this ſpecies was the moſt common of all thoſe animals in the time of Ariſtotle; and from this character it obtained the name of *kēbos*, which in Greek ſignifies a variety of colours. Thus, all the animals of the ape, baboon, and monkey kind, mentioned by Ariſtotle, may be reduced to four, the *pi-*

thecos, the *cynocephalus*, the *ſimia porcaria*, and the *kebos*; which we think ourſelves ſufficiently juſtified to rank as the *pythecos*, or *pigmy*; the *magot*, the *baboon*, and the *mone*, not only becauſe their particular characters perfectly agree with thoſe mentioned by Ariſtotle, but alſo, becauſe the other ſpecies muſt have abſolutely been unknown to him, ſince they are natives of thoſe countries into which the Greek travellers of his time had not penetrated.

Two or three ages after that in which Ariſtotle lived, we meet with two new names in the Greek authors, *callithrix* and *cercopithecos*, both relative to the long-tailed monkey. In proportion as diſcoveries were made, in the ſouthern regions of Africa and Aſia, we meet with new animals, and other ſpecies of monkies; and as moſt of theſe monkies likewiſe were not of various colours like the kébos, the Greeks compoſed the generic name of *cercopithecos*, that is, the *ape with a tail*, to denote all the ſpecies of monkies, or apes with long tails; and having diſcovered among them one of a beautiful green colour, they called it *callithrix*, which ſignifies beautiful hair. This callithrix is found in the ſouthern parts of Mauritania, and in the neighbouring countries of Cape de Verd, and commonly known by the name of the *green ape*.

With reſpect to the other ſeven ſpecies of monkies, which we have indicated by the names of Macaque, Patas, Malbrouk, Mangabey, Mouſtac, Talapoin, and Douc, they were unknown to the ancients. The macaque is a native of Congo, the patas of Senegal, the mangabey of Madagaſcar, the malbrouk of Bengal, the mouſtac of Guinea, the talapoin of Saim, and the douc of Cochinchina; all theſe places were equally unknown to the ancients, and we have been careful to preſerve the original names affixed to them in their native countries.

But as Nature always proceeds in a regular and gradual manner, never leaving any chaſms, we meet with an intermediate ſpecies between the baboon and monkey, like that of the magot between the ape and the baboon. The animal which fills up this interval, greatly reſembles the monkey, eſpecially the macaque, but it has a broad muzzle, and a ſhort tail, like the baboon. Being ignorant of its proper name, we have called it the *maimon*, to diſtinguiſh it from other animals of this kind. It is a native of Sumatra, and is the only animal, as well among the baboon as the monkey ſpecies, that has no hair on its tail; and upon that account it has been deſcribed by the denomination of the *pig-tailed* or *rat-tailed ape*.

Thus we have enumerated all the animals of the old continent, to which the common name of Ape has been given, though they are not only of very diſtant ſpecies, but even of very different genera. But what has increaſed the error and confuſion in the arrangement of theſe animals is, that the names of *ape*, *cynocephalus*, *kēbos*, *cercopithecos*, which were invented by the Greeks fifteen hundred years ago, have been given to the animals of the new continent, which have been diſcovered within theſe two or three centuries. They knew not that none of the animals of Africa, and of the Eaſt-Indies, exiſted in the ſouthern parts of the new continent. Animals have been found in America with hands and fingers, and this character alone was thought ſufficient to give them the appellation of apes, without conſidering that for transferring a name it was requiſite that the animals ſhould be of the ſame genus, and to apply it juſtly, of the ſame identical ſpecies. Now the animals of America, of which we ſhall form two claſſes, by the names of *ſapajous* and *ſagoins*, are very different from the monkies of Aſia and Africa; and in the ſame manner as there are neither apes, monkies, nor baboons, to be found in the new continent, ſo likewiſe there are neither ſapajous nor ſagoins in the old. Though we have already mentioned theſe facts in general, in our diſſertation concerning the animals of the two continents, we can here prove it in a more particular manner, and demonſtrate, that of ſeventeen ſpecies, to which number we may reduce all thoſe kind of animals in the old continent, and of twelve or thirteen, to which this name of ape has been transferred in the new, there is not any of them alike, or to be found in both continents, for of the ſeventeen in the old we muſt firſt retrench three or four of the apes, who do not exiſt in America, and to whom the ſapajous and the ſagoins have no reſemblance. Secondly, we muſt alſo retrench three or four of the Baboons, as they are much larger than the ſagoins or the ſapajous, and alſo of a very different form; there remains, therefore, only nine monkies of the old continent with whom any compariſon can be made. Now this ſpecies of monkies, as well as the apes and baboons, have particular and general characters, which entirely ſeparate them from the ſapajous and ſagoins. The firſt of theſe characters conſiſts in the rump being bare, on which are natural

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calloſities peculiar to thoſe parts. The ſecond is the having pouches on each ſide of the jaw, in which the animal can ſtore its food. The third is in the make of the noſtrils, which are narrow, and the apertures placed in the under parts, like thoſe of man. The ſapajous and ſagoins have not one of theſe characters. The partition between their noſtrils is very thick, and the apertures are placed on the ſides of the noſe, and not below it. They have hair on their poſteriors, and no calloſities; they have no pouches on each ſide of their jaws: thus theſe animals differ not only in ſpecies but even in genus, ſince they have not any of the general characters common to the whole tribe of monkies; and this difference in genus ſuppoſes ſtill greater in the ſpecies, and demonſtrates them to be quite diſtinct from each other.

The names of ape and monkey, therefore, have been very improperly applied to the ſapajous and the ſagoins. We muſt preſerve their original names, and inſtead of ranking them with the apes we ſhould begin by comparing them together. Theſe two families differ from each other by a very remarkable character. The ſapajous make uſe of their tails to hang by, and to procure what they cannot reach with their hands. The ſagoins, on the contrary, cannot make uſe of their tail in that manner. Their face, ears, and hair, are alſo different; we, therefore, may very properly divide them into two diſtinct races.

Avoiding the uſe of theſe denominations, which can only be applied to the monkey, baboon, or ape, we have endeavoured to indicate the ſapajous and the ſagoins by the names they bear in their native country. We are acquainted with ſix or ſeven ſpecies of ſapajous, and ſix of the ſagoins, moſt of which have varieties. We have carefully ſearched after their names in all the writings of obſervant travellers, becauſe in general the names which any one of them goes by in its native country is derived from ſome particular character which alone was ſufficient to diſtinguiſh it from all the reſt. With reſpect to the varieties, which in this claſs of animals are, perhaps, more numerous than the ſpecies, we have endeavoured to refer each to its reſpective ſpecies. We have had in our poſſeſſion forty of theſe animals alive, differing from each other in a greater or leſs degree, and from a particular and attentive examination of which, we think the whole may be reduced to thirty ſpecies, viz. three apes, and one intermediate ſpecies between them and the baboons;

three baboons, and one intermediate ſpecies between them and the monkies; nine monkies, ſeven ſapajous, and ſix ſagoins; the reſt, or at leaſt the greateſt part of them, ought to be conſidered only as varieties. But as we are not abſolutely certain that ſome of theſe varieties may not be diſtinct ſpecies, we ſhall endeavour to give all of them proper denominations.

Here, then, let us conſider terreſtrial animals, ſome of which ſo greatly reſemble the human form, in a new point of view. Affixing the name of quadruped to all theſe animals is very exceptionable. If the exceptions were few we ſhould not have objected to the application of this term. We are convinced that our definitions and names, however general, do not comprehend the whole; that there exiſts particular beings, which eſcape the moſt cautious definitions, and that intermediate ſpecies are conſtantly diſcovered. We know that many, though to all appearance holding the middle ſtation, have eſcaped enumeration, and that the general names under which they are included is incomplete; becauſe Nature ſhould never be conſidered in the aggregate, but by unities only, becauſe man has invented general names only to aſſiſt his memory, and becauſe he afterwards weakly regarded thoſe general names as realities; in ſhort, becauſe he has endeavoured to comprehend, under the ſame denominations, very different animals, and which neceſſarily required other appellations. I can give both example and proof, without ſwerving from the claſs of quadrupeds, which, of all animals, are thoſe beſt known to man, and to which he was, conſequently, the beſt enabled to give the moſt preciſe denominations.

The name of *quadruped* ſuppoſes an animal with *four feet.* If it is deficient in two, like the manati; if it has hands and arms like the ape; or if it has wings like the bat; it is not a quadruped: therefore this general denomination is abuſed whenever applied to either of thoſe animals. In order to ſpeak with preciſion, there ſhould be truth in the ideas which the words repreſent; for inſtance, let us find a word to convey a perfect idea of an animal with two hands; if we had a term to denote a two-handed animal, as well as one with two feet, we might then ſay, that man was only biped and bimanous, becauſe he alone has two hands and two feet; that the manati is only *bimanous*; the bat is only a *biped*; and the ape a *quadrimanus*, or four-handed animal. Let us now apply theſe *new* denominations to every particular being with which they agree, and we ſhall diſcover, that from the two hundred ſpecies of animals to which we have given the common name of *quadrupeds*, there is thirty-five ſorts of apes, baboons, monkies, ſapajous, ſagoins, and makis, muſt be retrenched, as they are *quadrimanous*, or fore-handed; and that to theſe thirty-five ſpecies we muſt add the lori, the murine, Virginian and Mexican opoſſums, and the jerboas, which are alſo *quadrimanous*, like thoſe above-mentioned; and that, conſequently, the liſt of four-handed animals being at leaſt compoſed of forty ſpecies, the real number of quadrupeds will be reduced one fifth part. If afterwards we take out twelve or fifteen ſpecies of bipeds, namely, the bats, whoſe fore-feet may rather be called wings than feet, and alſo three or four jerboas, becauſe they can only walk on their hind feet, thoſe before being too ſhort; if we remove alſo the manati, which has no hind feet, and the different ſpecies of the walrus, and the ſeal, to which animals they are entirely uſeleſs, the number of quadrupeds will be found diminiſhed a third more; and if we ſtill ſubtract thoſe animals which make uſe of their fore-feet like hands, as the bears, marmots, coatis, ſquirrels, rats, and many others, the denomination of quadrupeds will appear to be miſapplied to more than one half of theſe animals. In fact real quadrupeds conſiſt only of whole and cloven-footed animals. When we deſcend to the digitated claſs, we find four-handed, or ambiguous quadrupeds, who uſe their fore-feet in the manner of hands, and which ought to be diſtinguiſhed or ſeparated from the reſt. There are three ſpecies of whole-hoofed animals, the horſe, the zebra, and the aſs; and, by adding the elephant, the rhinoceros, the hippopotamus, and the camel, whoſe feet, though terminated by nails, are ſolid, and only ſerve for the purpoſe of walking, we ſhall have ſeven ſpecies to which the name of quadruped perfectly applies. There is a much greater number of cloven-footed than whole-hoofed animals. The oxen, the ſheep, the goats, the antelopes, the bubalus, the lama, the pacos, the elk, the rein-deer, the ſtag, the fallow-deer, the roe-buck, &c. are all cloven-footed, and compoſe all together full forty ſpecies. Thus, we have already fifty animals, ten whole-hoofed, and forty cloven-footed, to which the name of quadruped has been rightly applied. In the digitated animals, the lion, tiger, panther, leopard, lynx, cat, wolf, fox, dog, hyæna, civet, badger, weaſel, ferret, porcupines, hedge-hogs, armadillos, anteaters, and hogs, which conſtitute the laſt ſhade between digitated and cloven-footed tribes, add more than forty other ſpecies, to which the name of quadruped alſo applies in all the rigour of its acceptation; becauſe, though their fore-feet are divided into four or five toes, they never uſe them as hands; but all the other digitated ſpecies who uſe their fore-feet to hold and carry food to their mouths, are not, in ſtrict propriety, quadrupeds. Thoſe ſpecies, which are alſo forty in number, form an intermediate claſs between quadrupeds and four-handed animals, and are preciſely neither one nor the other. Therefore, to more than a fourth of our animals, the name of quadruped does not apply; and to more than one half with which it does not agree in all the extent of its acceptation.

The four-handed animals fill up the great chaſm between the quadruped and the human ſpecies. The two-handed are in the diſtance between man and the cetaceous tribes. The bipeds with wings form the ſhade between quadrupeds and birds; and the digitated ſpecies who uſe their fore-feet as hands, fill up all the degrees between the quadrupeds and the four-handed kinds.—But this ſubject is too extenſive for us here to purſue; however uſeful it might be to give a diſtinct knowledge of animals, it is ſtill more ſo by furniſhing us with a new proof, that not any of our definitions are preciſe, nor our general terms exact, when particularly applied to objects, or beings they are intended to repreſent.

But why are theſe definitions and general terms, which ſeem to be the maſter-piece of invention, ſo exceedingly defective in their application? Is this error the defect of human underſtanding? or rather, is it not an incapacity, or inability, of combining, and perceiving a number of objects at one view? Let us compare the works of Nature with thoſe of man: let us examine how both operate, and then enquire whether the human mind, however active and extenſive, can follow the ſame route, without being loſt either in the immenſity of ſpace, the obſcurity of time, or in the infinite combinations of related beings? Let a man direct his mind on any object, if he would avoid being miſled, he muſt walk in a direct line, paſs over the leaſt ſpace, and employ the leaſt poſſible time to accompliſh his end. But in this purſuit, what a number of reflections and combinations muſt he make to avoid thoſe deceitful and fallacious roads which at firſt offer themſelves in ſuch numbers, that it requires the greateſt and niceſt diſcernment to chooſe the true and direct path? This path, however, is not beyond the depth of that human intellects which can proceed without wandering from the direct line; by this only ſure and ſolid method he arrives at the deſtined point of view; but, if he ſeeks another point, it can only be obtained by another line. The train of our ideas is a delicate thread which only extends in length without any other dimenſions; while Nature, on the contrary, does not take a ſingle ſtep, which extends not on all ſides and paſſes at once through the three dimenſions of length, breadth, and thickneſs; while man attains but one ſingle point, ſhe embraces all, and penetrates into every part of a ſolid maſs. By the power of art, and length of time, our ſtatuaries form a figure which externally reſembles the object propoſed; each point of this ſurface requires a thouſand combinations. Their genius travels over as many lines as there are lineaments in the figure, and the leaſt falſe ſtep would have deformed it. This piece of marble, ſo perfectly executed, that it ſeems to breathe, is, therefore, only a multitude of points to which the artiſt arrives by labour and time; for human genius being unable to ſeize more than one dimenſion at a time, and our ſenſes reaching no farther than ſurfaces, we cannot penetrate the ſubſtance; whereas Nature, on the contrary, deſigns and enters into the depth of things; ſhe produces forms almoſt inſtantaneouſly; ſhe at once expands them in all their dimenſions; as ſoon as her movements reach the ſurface, the penetrating powers with which ſhe is animated, operates internally. The ſmalleſt atom, when ſhe chooſes to make uſe of it, is obliged to obey her will. Her actions, therefore, extend over all; ſhe travels above, below, to the right, and left, and conſequently, ſhe not only encompaſſes the ſurface, but every particle of the maſs. What difference there is alſo in the product? What compariſon can be made between a ſtatue and an organized body? What inequality in their powers, and how diſproportioned the inſtruments! Man can only make uſe of the power he poſſeſſes. Confined to a ſmall quantity of motion, which he can only communicate by impulſion, he can only exert himſelf upon ſurfaces; ſince the power of impulſion in general is only tranſmitted by ſuperficial contact. He only ſees and touches the ſurface of bodies, and when he attempts to proceed farther, though he opens, divides, and ſeparates, he ſtill touches nothing more than ſurfaces. To penetrate the interior parts of bodies, he ſhould be poſſeſſed of a portion of that power which acts upon the maſs, or of gravity, which is Nature's chief inſtrument. It is, therefore, the defect of inſtruments which prevents the art of man from approaching that of Nature. His figures, his pictures, his deſigns, are only ſurfaces, or imitations of ſurfaces, becauſe the images he receives by his ſenſes are all ſuperficial, and he is unable to give them the internal parts.

What is true with regard to the arts is the ſame as to ſciences. The latter is only leſs confined, becauſe the mind is the inſtrument, and which in the former is ſubordinate to the ſenſes. But in the ſciences the mind commands the ſenſes, as its only endeavour is to ſearch into objects, and not to operate on them; to compare, and not imitate them. The mind, though thus cramped by the ſenſes, though often abuſed by their falſe reports, is, notwithſtanding, neither leſs pure nor leſs active. Man, who has a natural deſire to knowledge, began by rectifying, and demonſtrating the errors of the ſenſes. He has treated them as mechanical, as inſtruments, the effect of which muſt be left to experience. Purſuing ſtill his deſire of knowledge, he has travelled on with the balance in one hand, and the compaſs in the other, and has meaſured both time and ſpace. Thus, he has recognized all the exterior parts of Nature's works, but not being able to penetrate her internal parts by his ſenſes, he has drawn his concluſions and formed a judgment of them by analogy and compariſon. He diſcovered that there exiſts a general force in matter, quite different from that of impulſion; a force which does not come within the compaſs of our ſenſes, and which, though we are unabled to make uſe of, Nature employs as an univerſal agent. He has demonſtrated, that this force belongs equally to all matter, in proportion to its maſs or real quantity; that its action extends to immenſe diſtances, decreaſing as the ſpace augments. Afterwards, turning his eyes upon living beings, he found that heat was another force neceſſary to their production; that light was a matter endowed with an unbounded claſticity and activity; that the formation and expanſion of organized beings were the effects of a combination of all theſe forces; that the extenſion and growth of animal or vegetating bodies, exactly follow the laws of attraction, and are effected by an increaſe of all three dimenſions at the ſame time; and that a mould, when once formed, muſt, according to the laws of affinity, produce a ſucceſſion of others exactly reſembling the original. By combining thoſe attributes, common to the animal and vegetable, he diſcovered, that there exiſted in both an inexhauſtible and reverſible fund of organic and living ſubſtance; a ſubſtance as real as the unformed matter; a ſubſtance which continues always in its live as the other does in its inactive ſtate; a ſubſtance univerſally diffuſed, which, paſſing from vegetables to animals by means of nutrition, returning from animals to vegetables by the proceſs of putrefaction, and maintaining an inceſſant circulation for the animation of beings. He alſo remarked, that theſe organic particles exiſted in every organized body; that they were combined in greater or leſs quantities with dead matter; that they were more abundant in animals where all is full of life, and more ſcarce in vegetables where the dead matter predominates, and the living ſeems to be extinct; where the organic matter, overpowered by the rude, has neither progreſſive motion, ſenſation, heat, nor life, and is only manifeſted by its unfolding and re-production. Reflecting on the manner each operates, he diſcovered, that every living being is a mould that poſſeſſes the power of aſſimulating the ſubſtances by which it is nouriſhed; that growth is an effect of this aſſimulation; that the unfolding of a living body is not a ſimple augmentation of bulk, but an extenſion in every dimenſion, and a penetration of new matter into every part of the whole maſs; that thoſe parts increaſing in proportion to the whole, and the whole in proportion to the parts, the form is preſerved, and remains always the ſame till the growth is completed; that when the body has acquired all its extent, the ſame matter heretofore employed in the augmentation, is ſent back as ſuperfluous from every part to which it had been aſſimilated; and that, by uniting in one common point, it forms a new being, perfectly like the firſt, and which to attain the ſame dimenſions, requires only to be expanded by the ſame mode of nutrition. He alſo obſerved that man, quadrupeds, cetaceous animals, birds, reptiles, inſects, trees, plants, and herbs, were all nouriſhed, unfolded, and reproduced by the ſame univerſal law; and that the manner of their nutrition and generation appearing ſo different, although dependent on one general and common cauſe, was becauſe it could not operate but in a mode relative to the form of each particular ſpecies of being. To acquire theſe grand truths, required a ſucceſſion of ages, and gradual inveſtigation, but having obtained ſo much he began to compare different objects together; to diſtinguiſh one from the other, he gave them particular names, and invented general denominations to re-unite them under one point of view. He obſerved, by taking the body of man as the phyſical model of every living animal, and by comparing and examining every living animal in their ſeveral parts, that the form of every thing that breathes is nearly the ſame; that the anatomy of a man and an ape are ſimilar; that every animal has the ſame organization, the ſame ſenſes, the ſame viſcera, the ſame bones, the ſame fleſh, the ſame motion of the fluids, and the ſame action in the ſolids. In all of them he has found a heart, veins, and arteries; the ſame organs of circulation, reſpiration, digeſtion, nutrition, and ſecretion; the ſame ſolid ſtructure, erected with the ſame materials, and put together nearly in the ſame manner. This plan he found to proceed uniformly from mankind to the monkey, from the monkey to quadrupeds, from quadrupeds to the cetaceous animals, and ſo on to birds, fiſh, and reptiles. This plan, I ſay, when well comprehended by the human underſtanding, exhibits a faithful picture of animated nature, and affords the moſt ſimple and general view under which ſhe can poſſibly be conſidered; and when we extend it by paſſing from the animal to the vegetable, we ſhall find this plan, which we at firſt found varying only by ſhades, degenerate by degrees from reptiles to inſects, from inſects to worms, from worms to zoophytes, and from zoophytes to plants; and though changed in all its exterior parts, nevertheleſs, ſtill preſerving the ſame character; the principal features of which are nutrition, expanſion, and reproduction. Theſe features are general and common to every organized ſubſtance, they are eternal and divine; and, far from being effaced or deſtroyed by time, are only renewed and rendered more plain and evident.

If, from this great picture of reſemblances, in which the living univerſe preſents itſelf as but one family, we paſs to that of the differences, wherein each ſpecies claims a ſeparate place, and a diſtinct portrait, we ſhall perceive, that excepting ſome ſort of the larger ſpecies, ſuch as the elephant, the rhinoceros, the hippopotamus, the tiger, and the lion, every other ſeems to unite with its neighbouring kind, and form groupes of degraded ſimilitudes, or genera, which our nomenclators have repreſented in a network of figures, ſome of which are connected by the feet, and others by the teeth, horns, hair, and others by ſtill ſmaller affinities. And even the apes, whoſe form appears to be the moſt perfect, that is, approaches neareſt to that of man, are repreſented confuſedly, and require very accurate obſervations to diſtinguiſh one from the other, becauſe the privilege of ſeparate ſpecies is leſs owing to form than ſize. Man himſelf, though a ſingle ſpecies, and infinitely removed from that of all other animals, yet being only of a middle ſize, has more approximations than the larger kinds. We ſhall find in the hiſtory of the orang-outang, that if we ſhould only attend to the figure, we might look on that animal as the one in which the ape ſpecies begins, or, that in which the human ſpecies ends; becauſe, except the intellect, he is not deficient in any one thing which we poſſeſs, and becauſe, in his body, he differs leſt from man than from the other animals to which we have given the denomination of apes.

The mind, thought, and ſpeech, therefore, do not depend on the form or organization of the body. Thoſe are gifts beſtowed on man alone. Though the orang-outang neither ſpeaks nor thinks, he has a body, limbs, ſenſes, a brain, and a tongue, entirely ſimilar to thoſe of man. He can counterfeit every motion of the human ſpecies, and yet cannot perfectly perform one ſingle act; which may poſſibly be owing to a defect in education, or perhaps to an error in our judgment. You unjuſtly compare, it may be ſaid, an ape, who is a native of the foreſts, with the man who reſides in poliſhed ſociety. To form a proper judgment between them, a ſavage man and an ape ſhould be viewed together; for we have no juſt idea of man in a pure ſtate of nature. The head covered with briſtly hairs, or with curled wool; the face partly hid by a long beard, and ſtill longer hairs in the front, which ſurround his eyes, and make them appear ſunk in his head, like thoſe of the brutes; the lips thick and projecting, the noſe flat, the aſpect wild or ſtupid; the ears, body, and limbs are covered with hair; the nails long, thick, and crooked; a callous ſubſtance like a horn under the ſoles of the feet; the breaſts of the female long and flabby, and the ſkin of her belly hanging down to her knees; the children wallowing in filth, and crawling on their hands and feet; and, in ſhort, the adults ſitting on their hams, forming an hideous appearance, rendered more ſo by being beſmeared all over with ſtinking greaſe. This ſketch, drawn from a ſavage Hottentot,

tentot, is ſtill a flattering portrait, for there is as great a diſtance between a man in a pure ſtate of nature and a Hottentot, as there is between a Hottentot and us. But if we wiſh to compare the human ſpecies with that of the ape, we muſt add to it the affinities of organization, the agreements of temperament, the vehement deſire of the males for the females, the like conformation of the genitals in both ſexes, the periodic emanations of the females, the compulſive or voluntary intermixture of the negreſſes with the apes, the produce of which has united into both ſpecies; and then conſider, ſuppoſing them not of the ſame ſpecies, how difficult it is to diſcover the interval by which they are ſeparated.

I acknowledge, if we were forced to judge by external appearance alone, the ape might be taken for a variety in the human ſpecies. The Creator has not formed man's body on a model abſolutely different from that of the mere animal; he has comprehended his figure, as well as of that of every other animal, under one general plan, but at the ſame time that he has given him a material form, ſimilar to that of the ape, he infuſed this animal body with a divine ſpirit. If he had granted the ſame favour, not to the ape, but to the meaneſt animal,

mal, whoſe organization ſeems to us to be the worſt of all conſtructed beings, this animal would ſoon have become the rival of man. Quickened by his ſpirit it would have excelled every other animal, by having the power of thought and ſpeech. Therefore whatever reſemblance there is between the Hottentot and the ape, the interval which ſeparates them is immenſe, ſince the former is endowed with the faculties of thinking and ſpeaking.

Who will ever be able to tell in what the organization of an idiot differs from that of another man? yet the defect is certainly in the material organs, ſince the idiot has a ſoul like another perſon. Now, ſince in mankind, where the whole ſtructure is entirely conformable, and perfectly ſimilar, a difference ſo trifling as to be entirely unperceivable is ſufficient to deſtroy thought, we muſt not be aſtoniſhed that it never appears in the ape, which has not the neceſſary principle.

The action of the ſoul in general is proper and independent of matter. But as it has pleaſed the Divine Author to unite it with the body, the exerciſe of its particular actions depends on the ſtate of the material organs; and this dependance is not only apparent from the example of idiots but from perſons afflicted with delirium, from infants who cannot think, and from very old people, after the power of thinking is gone. Even the principle of education ſeems to conſiſt not ſo much in inſtructing the mind, or bringing its operations to perfection, as in modifying the material organs, and putting them into the moſt favourable condition for exerciſing the thinking principle. Now there are two kinds of educations which ſhould be carefully diſtinguiſhed, as their effects are quite different; the education of the individual, which is common both to man and the other animals, and that of the ſpecies which belong to man alone. A young animal, as well from encitement as example, in a few weeks learns to perform all the actions of its parents: a child requires a number of years to attain this degree of perfection, becauſe when born its growth and ſtrength is incomparably leſs forward than in young animals. In the firſt years the mind is a void relatively to what it becomes in future. A child, therefore, is much ſlower in receiving individual education than that of the brute; but for this very reaſon it becomes ſuſceptible of that of the ſpecies. The multiplicity of aids, and the continual cares, which, for a long time, the weak ſtate of the infant exacts, entertains and increaſes the attachment of its parents, and while they are attending to the care of the body they cultivate the mind. The time required to ſtrengthen the firſt, turns to the profit of the latter. In the generality of animals the corporeal faculties are more advanced in two months than thoſe of an infant in two years; there is, therefore, twelve times as much time employed in its individual education, without reckoning what is ſtill remaining to acquire after this period, without conſidering that animals quit their young as ſoon as they are able to provide for themſelves, and that ſoon after this ſeparation they know each other no more, ſo that all attachment, and all education, ceaſes in them at the very moment aſſiſtance is no longer neceſſary. Now this time of education being ſo ſhort, its effects muſt be very ſmall; and it is even aſtoniſhing that animals acquire in two months whatever is neceſſary for their uſe during the reſt of life: if we ſuppoſe a child, in an equal ſpace of time, ſhould become ſufficiently formed and ſtrong to leave its parents, and never to return to them for aſſiſtance, would there be any ſenſible difference between this child and the brute animal? However ingenious and able the parents were, could they be able to prepare and modify its organs in ſo ſhort a ſpace of time, or to eſtabliſh the leaſt communication of thought between their minds and his? could they be able to excite his memory by impreſſions ſufficiently reiterated? could they even mollify or unfold their organs of ſpeech? no, for before the child can pronounce a ſingle word his ear muſt have received innumerable ſtrokes from the ſame ſound; and, before he can be able to apply or pronounce it properly, the ſame combination of the word, and the object to which it belongs, muſt be innumerably preſented to him. Education, therefore, which alone can expand the powers of the mind, will be unremittingly continued for a length of time; if it ſhould ceaſe, not at the end of two months, as in animals, but even when twelve months old, the mind of the child, which could have received no impreſſion, would remain inactive, like that of an idiot, the defect of whoſe organs prevents the reception of knowledge. This reaſoning would apply with double force if we ſuppoſe the child born in a pure ſtate of nature, if it had only a Hottentot mother for its tutoreſs, and that at the age of two months it was able to ſeparate from her, and live without her care and aſſiſtance; would not this child be worſe than an idiot, and entirely on a par with the brutes? But in this ſtate of nature, the firſt education, that is, the education of neceſſity, exacts as much time as in the civilized ſtate, becauſe in both the child is equally weak, and equally ſlow in its growth, and conſequently it has need of the care of its parents for an equal portion of time. In ſhort, it would infallibly periſh if abandoned before the age of three years. Now this neceſſary habitude, ſo long continued between the mother and the child, is ſufficient to communicate to it all that ſhe poſſeſſes; and though we ſhould falſely ſuppoſe, that this mother, in a ſtate of nature, poſſeſſes not any one gift, not even that of ſpeech, would not this long habitude with her child produce a language? Thus this ſtate of pure nature, wherein we ſuppoſe man to be without thought and ſpeech, is imaginary, and never had exiſtence. This needful and long intercourſe of parents with their children produces ſociety in the midſt of a deſart. The family underſtand each other by ſigns and ſounds; and this firſt ray of intelligence, when cheriſhed, cultivated, and communicated, unfolds, in the proceſs of time, all the buds of thought; and as this habitual intercourſe could not ſuſtain itſelf ſo long without producing mutual ſigns and ſounds, always repeated and gradually engraven on the memory of the child, would conſequently become conſtant and intelligible expreſſions; though the liſt of words is ſhort, it ſtill forms a language, which will ſoon become more extended as the family increaſes, and will always follow the ſteps of ſociety in improvement. Society being formed, the education of the child is no longer individual, for then the parents communicate to it not only what they poſſeſs from Nature, but alſo what they have received from their anceſtors, and from the ſociety of which they form a part. It is no longer a communication between detached individuals, confined like animals, to the tranſmiſſion of ſimple faculties, but an inſtitution of which the whole ſpecies partakes, and whoſe produce conſtitutes the bond and baſis of ſociety.

Even among brute animals, though deprived of the thinking principle, thoſe whoſe education is the longeſt are alſo thoſe which ſeem to have the greateſt ſhare of intelligence: the elephant, who takes the longeſt time in completing its growth, and which requires the aſſiſtance of its mother for the whole of the firſt year, is alſo the moſt intelligent animal. The Guinea-pig, which requires only three weeks to accompliſh its growth, and be in a generating ſtate, is, perhaps, for this reaſon alone,

one of the moſt ſtupid animals in Nature. With reſpect to the ape, with a view to aſcertain whoſe nature we have gone into this inveſtigation, whatever reſemblance he may bear to man, yet his affinity to the brutes is evident from the moment of his birth; he is then proportionably ſtronger, and more completely formed than the infant, and the time of his growth bears no compariſon; the aſſiſtance of his mother is only neceſſary during a few months; his education is purely individual, and conſequently as ſterile as that of other animals.

The ape, therefore, notwithſtanding his reſemblance to the human form, is a brute, and ſo far from being ſecond in our ſpecies is not even the firſt in the order of animals, becauſe he is not the moſt intelligent among them; therefore it is only on account of the corporal reſemblance that prejudice has been formed in favour of the great faculties of the ape. He reſembles man, it is ſaid, both externally and internally, and therefore he muſt not only imitate us, but alſo, of its own accord, act in the ſame manner as we do. We have ſeen that every action we call human are relative to ſociety; that they depend, at firſt on the mind, and afterwards on education, the phyſical principle of which is the neceſſity there is for the long intercourſe between parents and children; that this intercourſe is very ſhort with the ape; that, like other animals, he only receives an education purely individual, and is not ſuſceptible of any other, conſequently be cannot act like man, ſince no action of the ape has the ſame principle, nor the ſame end. With reſpect to imitation, which appears to be the ſtrongeſt and moſt ſtriking character in the ape kind, and which the vulgar refer to him as a peculiar talent; before we decide we muſt examine whether this imitation is ſpontaneous or forced. Does the ape imitate the human ſpecies from inclination, or from poſſeſſing an innate capacity of performing thoſe actions without choice or exertion? I willingly appeal to all thoſe who have obſerved this animal without prejudice, and I am convinced they will agree with me, that there is nothing voluntary in their imitation. The monkey having arms and hands, makes uſe of them as we do, but without any idea of copying our example. The ſimilitude of his limbs and organs neceſſarily produces motions reſembling ours; being formed like man he muſt be enabled to move like him; but this ſimilarity of motion by no means proves he acts from imitation; let us, for inſtance, conſtruct two pendulums of the ſame form, and give them an equal motion, would it not be abſurd to ſay theſe machines move to imitate each other? It is the ſame with reſpect to the ape, relative to the body of man, they are two machines, ſimilarly conſtructed, and by the impulſe of Nature move nearly in the ſame manner: however parity muſt not be conſidered as imitation; the one depends on matter, and the other exiſts only in reaſon. Imitation ſuppoſes a deſign of copying; the ape is incapable of forming this deſign, which requires a train of thoughts and judgment; for this reaſon, man, if he chooſes, can imitate the ape, but the ape cannot have an idea of imitating man.

This parity is no more than the phyſical part of imitation, and not ſo complete as the ſimilitude from which, however, it proceeds as an immediate effect. The ape reſembles man more by his body and limbs than by the uſe he makes of them. By obſerving the ape attentively we ſhall perceive that all his motions are ſudden, intermittent, and precipitate; and to compare them with thoſe of man we muſt ſuppoſe a different model. Every action of the ape ſtrongly partakes of his education, which is purely animal; and they appear to be extravagant, ridiculous, and inconſequential, becauſe we judge of them by our own, which is a falſe compariſon. As his nature is vivacious, his temperament warm, his diſpoſition petulant, and none of his affections having been poliſhed by education, all his habitudes are exceſſive, and more reſemble the actions of a lunatic than thoſe of a man, or even thoſe of a peaceable animal: from the ſame reaſon we find him indocile, and that he receives with difficulty the impreſſions we wiſh him to imbibe. He is inſenſible to kindneſs, and only to be rendered obedient through fear of chaſtiſement. He may be kept in captivity, but not in a domeſtic ſtate. Always ſullen, ſtubborn, or making grimaces, he may rather be ſaid to be ſubdued than tamed; therefore none of this ſpecies has ever been domeſticated in any part of the world, and conſequently is more diſtant from man than moſt other animals, for docility ſuppoſes ſome analogy betwixt the giver and the receiver of inſtruction; a relative quality, which cannot be exerciſed but when there is a certain number of common faculties in both, which only differ from each other becauſe they are active in the maſter and paſſive in the ſcholar. Now the paſſive qualities of the ape have leſs relation to the active qualities of man than thoſe of the dog or elephant, who only require good treatment to receive the kind and even delicate ſentiments of a faithful attachment, voluntary obedience, grateful ſervice, and an unreſerved and ready attention to the commands of their maſter.

The ape is, therefore, farther removed from the human ſpecies in relative qualities, than moſt other animals: He likewiſe differs greatly by temperament. The human ſpecies can dwell in every climate; he lives and multiplies in the northern as well as in the ſouthern regions; but the ape lives with difficulty in temperate countries, and can only multiply in the hotteſt parts of the earth. This difference of temperament ſuppoſes others in organization, which though concealed, are no leſs real; it muſt alſo have a great influence on his natural diſpoſitions. The exceſs of heat ſo neceſſary to this animal renders all his affections, and all his qualities, exceſſive; and we need not ſeek for any other cauſe to account for his petulance, his lubricity, and his other paſſions, which ſeem to be as violent as they are extravagant.

Thus the ape, which philoſophers, as well as the generality of people, have regarded as a being difficult to define, and the nature of which was at leaſt equivocal, and intermediate between that of man and brute animals, is, in fact, no other than a real brute, wearing externally a human maſque, but internally deſtitute of thought, and every other attribute which conſtitute the human ſpecies: an animal inferior to many others in his relative faculties, and more eſſentially different from the human race by his nature, temperament, and alſo by the time neceſſary to his education, geſtation, growth, and duration of life; that is by every real habitude which conſtitutes what we call *Nature* in a particular being.

THE ORANG-OUTANG *, OR THE PONGO, AND THE JOCKO.

WE ſhall preſent the Orang-outang and the Jocko together, becauſe they, poſſibly, belong to the ſame ſpecies. Of all the ape and monkey kinds, theſe bear the greateſt reſemblance to the human form, and conſequently, thoſe

* Orang-outang is the name this animal bears in the Eaſt-Indies; *Pongo*, its denomination at Lowando, a province of Congo; and Kukurlacks in ſome parts of the Eaſt-Indies.

thoſe which are moſt worthy particular notice. We have ſeen the ſmall orang-outang, or jocko, *(fig. 195.)* alive, and have preſerved its ſkin; but we can only ſpeak of the pongo, or great orang-outang, from the accounts given us by travellers. If their relations might be depended on, if they were not often obſcure, faulty, and exaggerated, we ſhould not doubt of its being a different ſpecies from the jocko, a ſpecies more perfect, and approaching nearer to the human race. Bontius, who was head phyſician at Batavia, and who has left ſome excellent obſervations on the Natural Hiſtory of that part of India, expreſsly ſays, that he ſaw with admiration, ſome individuals of this ſpecies walking erect on two feet, and among others a female (of which he gives a figure) who ſeemed to have an idea of modeſty, covering herſelf with her hand on the appearance of men with whom ſhe was not acquainted; who ſighed, cried, and did a number of other actions, ſo like the human race, ſhe wanted nothing of humanity but the gift of ſpeech. Linnæus, upon the authority of ſome travellers, ſays, that even this faculty is not wanting in the orang-outang, but that he thinks, ſpeaks, and expreſſes his meaning in a whiſtling tone. He calls him the *Nocturnal Man*, and at the ſame time

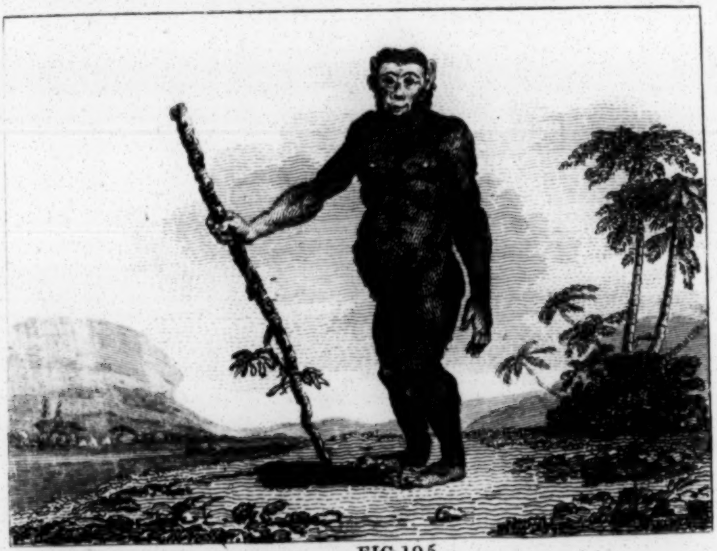

FIG. 195

Jocko

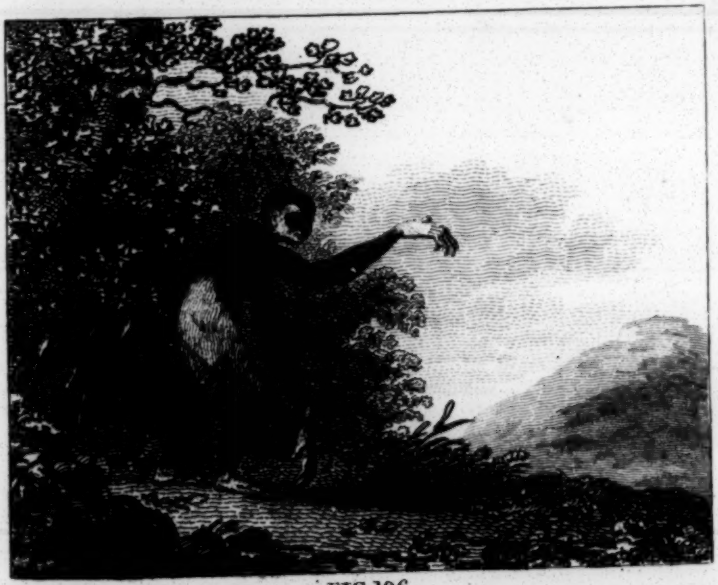

FIG. 196

Small Gibbon

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time gives ſuch a deſcription of him that it is impoſſible to decide whether he is a brute or human being. We muſt, however, remark, that, according to Linnæus, this being, whatever he may be, is not above half the height of a man; and as Bontius makes no mention of the ſize of this orang-outang, we ſhould imagine them to be the ſame: but, then, this animal of Linnæus and Bontius would not be the true orang-outang, which is of the ſize of a very tall man: neither can he be what we call the *Jocko* which I have ſeen alive; for although he was of the ſame ſize as that deſcribed by Linnæus, yet he differed in every other character. I can affirm, from having repeatedly ſeen him, that he neither ſpake nor expreſſed himſelf by a whiſtling noiſe, and that he did not a ſingle thing but what a well inſtructed dog could perform: He differed in almoſt every reſpect from the deſcription which Linnæus gives of the orang-outang, and agreed much better with that of the *ſatyrus* of the ſame author. I therefore greatly doubt the truth of the deſcription of this *nocturnal man*; I even doubt of his exiſtence; and it was probably a white Negro, a *Chacrelas*, whom thoſe travellers, Linnæus has quoted, have but ſuperficially ſeen, and as blindly deſcribed, for the Chacrelas, like the nocturnal man of this author, has white, woolly, frizly hair, red eyes, a weak ſight, &c. But then they are men, and do not whiſtle; nor are they pigmies of only thirty inches in height; they think, ſpeak and act, like other men, and their ſtature is exactly the ſame.

Diſcarding, therefore, this ill-deſcribed being, and ſuppoſing a little exaggeration in Bontius's relation concerning the modeſty of his female orang-outang, there only remains a brute animal, namely, an Ape, of which we have information from authors of more credit; and which is deſcribed with the greateſt exactneſs by Edward Tyſon, a celebrated Engliſh anatomiſt. This learned gentleman ſays, that there are two ſpecies of this ape, and that the one he gives a deſcription of is not ſo large as the other called *barris*, or *baris*, by travellers, and *drill* by the Engliſh. This *drill* is, in fact, the large orang-outang of the Eaſt-Indies, or the pongo of Guinea; and the pigmy deſcribed by Tyſon is the jocko which we have ſeen alive. Gaſſendi having advanced, on the authority of a traveller, named St. Amand, that in the iſland of Java there was a creature which formed the ſhade between man and the ape; the fact was poſively denied. To prove it Peireſe produced a letter from M. Noël, a phyſician, who lived in Africa, in which it is aſſerted, that there is found in Guinea a large ape, called *barris*, which walks erect on its two feet, has an appearance of more gravity and ſagacity than any of the other ſpecies, and has a very ſtrong inclination for women. Darcos, Nieremberg, and Dapper, ſpeak nearly the ſame of the barris. Battle calls it Pongo, and aſſures us, "that, excepting his ſize, he is exactly like a man in all his proportions; but he is as tall as a giant; his face is like that of a man, his eyes deep ſunk in the head, and the hair on his brows extremely long; his viſage is without hair, as are alſo his ears and hands; his body is lightly covered with hair inclining to a dun colour. He ſcarcely differs from man, except not having any calf to his legs. This animal always walks on his hind legs: he ſleeps under trees, and builds himſelf a ſhelter againſt the ſun and the rains. He lives only upon nuts and fruits, and is no way carnivorous: he cannot ſpeak, and has no more underſtanding than any other animal of the brute creation. When the people of the country travel in the woods they make fires by which they ſleep in the night, and being gone, in the morning this animal comes and ſits by it until it goes out, but he has not ſkill enough to keep the flame alive by feeding it with fuel. They go together in companies, and if they happen to met with one of the human ſpecies, remote from ſuccour, they ſhew him no mercy. They even attack the elephants, whom they beat with their clubs, and oblige them to leave that part of the foreſt which they claim as their own. Theſe creatures are never taken alive, for they are ſo ſtrong that ten men would not be able to hold one of them. They ſometimes deſtroy the young ones when the female happens to leave them behind, but in general they keep clung to their mother's breaſt, and adhere both with legs and arms to her belly. There are two kinds of this animal both very much reſembling the human race, the one the natives call pongo, is taller and thicker than a man; and the other *enjeco*, or jocko, whoſe ſize is much ſmaller." It is from this paſſage that I derived the names *pongo* and *jocko*. Battel farther obſerves, that when one of theſe animals dies the reſt cover his body with leaves and branches of trees. Purchas adds, in a note, that in the converſations he had with Battel he learned that a negro boy was taken from him by a pongo, and carried into the woods, where he continued a whole year, and that on his return he ſaid, that they never attempted to do him any injury; that they were generally about the height of the human race, but much larger, and nearly double the bulk of a man. Jobſon aſſerts to have ſeen, in places frequented by theſe animals, a ſort of habitations compoſed of interwoven branches, which might ſerve them at leaſt as a ſhelter from the heat of the ſun. “ The apes of Guinea, ſays Boſman, which are called *ſmitten* by the Flemings, are of a yellow colour, and grow to a very large ſize. I have ſeen ſome above five feet high. Theſe apes are of a very diſagreeable appearance, as well as thoſe of another ſpecies, which reſembles them in every particular excepting in ſize, which is not one fourth part ſo big. They are very eaſily taught to do almoſt whatever their maſters pleaſe.” Schouten ſays, “ That the animals which the Indians call orang-outangs are nearly of the ſame height and figure as mankind, but that their back and loins are covered with hair, although they have none on the fore part of their bodies ; that the females have two large breaſts ; that their face is coarſe, their noſe flat, and their ears like thoſe of men ; that they are robuſt, active, bold, and defend themſelves againſt armed men ; that they are paſſionately fond of women, who cannot paſs through the woods they inhabit, without theſe animals immediately attacking and raviſhing them." Dampier, Froger, and other travellers, aſſert, that young girls, about eight or ten years old, are taken away by theſe animals, and carried to the tops of high trees, and that it is a very great difficulty to reſcue them. To all theſe teſtimonies we may add that of M. de la Broſſe, mentioned in his voyage to Angola in 1738, wherein he ſays that the orang-outangs (which he calls *quimpezês*) often attempt to ſurprize the Negreſſes, whom, when they ſucceed, they detain for the purpoſe of enjoying, feeding them very plentifully all the time. I knew (ſays he) a Negreſs at Loango who had lived among theſe animals for three years. They grow from ſix to ſeven feet high, and are of great ſtrength. They build ſheds, and make uſe of clubs for their defence. They have flat faces, broad flat noſes, ears without a tip, and their ſkins are fairer than that of a mulatto, but they are covered on many parts of their bodies with long and tawny-coloured hair: their bellies are extremely tenſe, their heels flat, riſing behind out half an inch: they ſometimes walk upright, and ſometimes upon all fours. We purchaſed two of theſe animals, a male of about fourteen months old, and a female about twelve, &c."

Thus we have given the moſt preciſe and perfect account we could collect of the great *orang-outang*, or *pongo*; and as magnitude is the only ſtriking character by which it differs from the jocko, I muſt perſiſt in my belief that they are of the ſame ſpecies; for two things are at leaſt poſſible. 1. That the jocko may be a conſtant variety; that is, a much ſmaller race than that of the pongo; in fact, they are both of the ſame climate, they live in the ſame manner, and conſequently ought to reſemble each other perfectly, ſince they equally receive, and are ſubject to the ſame influences of earth and ſky—Have we not an example of a like variety in the human ſpecies? The Laplander and Finlander, though living under the ſame climate, yet differ almoſt as much in ſize, and much more in other attributes, than the jocko, differs from the great orang-outang. 2. The jocko, or ſmall orang-outang, which we have ſeen alive, as well as thoſe of Tulpius, Tyſon, and others which have been tranſported into Europe, were, perhaps, only young animals, which had not attained the whole of their growth. That which I ſaw was about two feet and a half high, and the Sieur Nonfoux, to whom it belonged, aſſured me that it was not above two years old; therefore, it poſſibly might have attained the height of five feet if it had lived, ſuppoſing its growth proportionate to that of the human ſpecies. The orang-outang deſcribed by Tyſon, was ſtill younger, as it was not above two feet high, and its teeth were not entirely formed. Thoſe of Tulpius and Edwards were nearly of the ſame ſize as that which I ſaw, therefore it is very probable that theſe animals, had they been at liberty in their own climate, would have acquired the ſame height and dimenſions which travellers aſcribe to the great orang-outang. From theſe circumſtances we ſhall conſider theſe two animals as belonging to one ſpecies, till a more preciſe knowledge of them ſhall be obtained.

The orang-outang which I ſaw walked always upright, even when carrying heavy burthens. His air was melancholy, his deportment grave, his movements regular, his diſpoſition gentle, and very different from that of other apes. Unlike the baboon, or the monkey, whoſe motions are violent, and appetites capricious, who are fond of miſchief, and only obedient through fear, a look kept him in awe. It may be urged that he had the benefit of inſtruction, but equally ſo had thoſe with whom I mean to compare him, and yet neither the baboon, nor other apes, could be brought to obey without blows, while a word was enough for him. I have ſeen this animal give his hand to ſhew the company to the door that came to ſee him, and walk about as gravely with them as if he formed one of the ſociety. I have ſeen him ſit down at table, unfold his napkin, wipe his lips, make uſe of a ſpoon or a fork to carry the victuals to his mouth, pour out his drink into a glaſs, and touch glaſſes with the perſon who drank with him; when invited to take tea, he would bring a cup and ſaucer, lay them on the table, put in ſugar, pour out the tea, and leave it to cool before he drank it. All this I have ſeen him perform without any other inſtigation than the ſigns, or the command of his maſter, and often of his own accord. He was gentle and inoffenſive; he even approached ſtrangers with reſpect, and appeared rather to ſolicit careſſes than inclined to offer injuries. He was particularly fond of ſweetmeats, which every body was ready to give him; and as he had a defluxion upon the breaſt, together with a cough, ſo much ſugar contributed, no doubt, to ſhorten his life. He continued at Paris one ſummer, and died in London the following winter. He would eat almoſt every thing that was offered, but preferred dry and ripe fruits to all other aliments. He would drink wine, but in ſmall quantities, and willingly left it for milk, tea, or any other ſweet, or mild liquor. Frederick Henry, Prince of Orange, had one of theſe animals preſented to him, the figure and deſcription of which is given by Tulpius, and who relates nearly the ſame circumſtances reſpecting him as we have done. But if we would know what peculiar inſtincts belong to this animal, and diſtinguiſh them from the improvements he had received from his maſter; we muſt compare thoſe facts which we have witneſſed, with the relations which travellers have given who ſaw this animal in a ſtate of nature, and in that of its captivity. M. de la Broſſe, who bought two orang-outangs that were but a year old from a negro, does not mention their having been educated; on the contrary, he aſſerts, that they performed many of the above actions by natural inſtinct. "Theſe animals, he ſays, ſat at table like men, that they eat every ſort of food without diſtinction, made uſe of a knife, a fork, or a ſpoon, to eat their meat and help themſelves; they drank wine and other liquors. We carried them on ſhip board, and when they were at table, they made ſigns to the cabbin-boy expreſſive of their wants; and whenever the boy neglected or refuſed to give them what they deſired, they became in a paſſion, ſeized him by the arm, bit and then threw him down. The male was ſea-ſick, and required attendance like an human creature: he was even twice bled in the right arm; and every time afterwards, when he found himſelf indiſpoſed, he held out his arm, as if conſcious of having been relieved by that operation."

Henry Groſe relates, "that theſe animals are met with to the north of Coromandel; that Mr. Horne, governor of Bombay, had two of them, a male and a female, ſent him from a merchant of the name of Vancajee, who lived upon the ſea-coaſt in that country, by Captain Boag, the maſter of a trading veſſel; who as well as ſome of his people, gave the following deſcription of them: they were ſcarcely two feet high, but their form was entirely like the human: they walked erect upon their two feet, and were of a ſallow white, without any hairs on any other part than thoſe on which mankind generally have them. Many of their actions perfectly reſembled the human, and their melancholy plainly evinced they felt the weight of their captivity. They made their bed very orderly in the cage in which they were ſent on board the ſhip. When any perſon looked at them, they hid thoſe parts which modeſty forbids to expoſe. Whether the ſea air affected them, or they pined at their confinement, or whether the captain did not provide them proper food, the female firſt ſickened, and died on board, upon which the male ſhewed all real ſigns of grief, and took the death of his companion ſo greatly to heart that he refuſed his food, and did not ſurvive her more than two days."

Such was Captain Boag's account to Governor Horne, on his return to Bombay; and upon being aſked what he had done with their bodies, ſaid he had thrown them over-board, not at the time thinking of preſerving them. The governor was ſo deſirous of poſſeſſing ſuch a curioſity, that he ſent to Vancajee, requeſting him to procure more; to which Vancajee replied, he was afraid that would not be in his power, as they were caught upon the ſkirts of a foreſt about ſeventy leagues up the country, but they were ſo ſhy and cunning, that the inhabitants were ſcarcely able to take them, it not happening more than once in a century.

Francis Pyrard relates, "that in the province of Sierra Leona in Africa, there is a ſpecies of apes called *baris*, who are ſtrong and muſcular, and ſo very induſtrious, that, if properly fed and inſtructed, they ſerve as very uſeful domeſtics: they uſually walk upright, will pound any thing in a mortar, fetch water from the river in little pitchers, which they carry on their heads; but if the pitchers are not ſoon taken off at their return, they let them fall to the ground; but when they ſee them broken, they begin to lament and cry for the loſs." Father Jarrie ſays nearly the ſame, and in almoſt the ſame words. The teſtimony of Schoutten agrees with Pyrard's, on the education of theſe animals. "When taken, he ſays, they are taught to walk erect on their hind feet, and to make uſe of thoſe before as hands, for certain works, as rincing glaſſes, carrying the beer, and waiting at table, turning the ſpits, and other domeſtic buſineſs." "I ſaw at Java (ſays Guat) a very extraordinary female ape; ſhe was very large, and often walked erect on her hind feet, at which time ſhe hid with her hands the parts which diſtinguiſh the ſex. She had no hair on her face, except the eye-brows, and her face much reſembled thoſe groteſque ones of the Hottentot women which I have ſeen at the Cape. She made her bed every day with great neatneſs, ſlept with her head on a pillow, and covered herſelf with a quilt. When ſhe had the head-ach, ſhe would bind it round with a handkerchief, and it was amuſing to ſee her thus dreſſed in bed. I could relate a number of other little circumſtances which appeared extremely ſingular, but I own I did not admire them ſo much as moſt people; becauſe, being not ignorant of the deſign of bringing her to Europe to gratify curioſity, I was inclined to ſuſpect ſhe had been taught a number of theſe tricks which the populace looked upon as natural to the animal. She died in our veſſel about the latitude of the Cape. This ape greatly reſembled the human ſpecies in figure, &c."

Gemelli Carreri ſpeaks of one he ſaw which cried like a child, walked erect on its hind-feet, and carried a mat under its arm on which it laid down to ſleep. "Theſe apes (he adds) ſeem in ſome reſpects to be more ſagacious than men; for when they no longer find fruits on the mountains, they deſcend to the ſea ſhore, where they catch and feed on crabs, oyſters, and other ſhell-fiſh. There is a ſpecies of oyſter, called *taclivo*, which weighs ſeveral pounds, and often lies upon the ſhores with its ſhells ſomewhat open; but this animal is ſufficiently ſagacious to ſuſpect they may cloſe upon him, if he uſes his paws, firſt puts a ſtone a ſtone between the ſhells and then he can eat the oyſter at his pleaſure."

"On the coaſts of the river Gambia (ſays Froger) there are apes larger and more miſchievous than in any other part of Africa: the Negroes are afraid of them, and they cannot travel alone where they frequent, without running a riſk of being attacked by theſe animals, who make uſe of huge clubs. The Portugueſe ſay that they frequently take away young girls of ſeven or eight years of age and carry them up to the higheſt trees. The greateſt number of Negroes look upon theſe animals as foreigners who are come to eſtabliſh themſelves in their country, and that their not ſpeaking, ariſes from a fear of being obliged to work." Another traveller remarks, that at Macacar there are apes which walk upon their hind feet like the human ſpecies, that they go in numbers, and that an encounter with them ofter proves fatal.

Thus we have nearly given every particular circumſtance concerning this animal which have been related by travellers who may be the moſt depended upon. I have given their accounts entirely, becauſe every paſſage is important in the hiſtory of a brute which has ſo great a reſemblance to man; and in order to determine its nature with the greater certainty, we ſhall now mention thoſe differences and conformities which divide him from or give him an approximation with the human ſpecies. The firſt external difference is the flatneſs of the noſe, the ſhortneſs of the forehead, and the wanting the prominence of the chin. The ears are proportionably too large; the eyes too cloſe to each other, and the interval between the noſe and the mouth too great: theſe are the only differences between the orang-outangs and the human face. As to the body and limbs, the thighs are proportionally too ſhort, the arms too long; the fingers too ſmall, the palms of the hands too narrow, and the feet rather reſemble the hands than the human feet. The parts of generation differ only from thoſe of man, by their having no frænum to the prepuce; but in the females the organs are nearly like thoſe of women.

Internally this animal differs from man in the number of its ribs; having thirteen, whereas man has only twelve. The vertebræ of the neck are alſo ſhorter, the bones of the pelvis narrower, the haunches more flat, and the orbits of the eyes ſunk deeper. There is no ſpiny apophyſis to the firſt vertebræ of the neck; the kidnies are rounder than in the human ſpecies, and the ureters have a different figure, as well as the bladder and gall bladder, which are much longer and narrower. In almoſt every other part, as well externally as internally, there is ſo perfect a reſemblance to thoſe of the human ſpecies, that we cannot compare them without expreſſing our wonder and admiration, that from ſuch a ſimilar conformation and organization the ſame effects are not produced. For example, the tongue, and all the organs of the voice, are exactly the ſame as in man, and yet this animal does not ſpeak; the brain is abſolutely of the ſame form and proportion, and yet it does not think. Can there, then, be a more evident proof that we have in this animal, that matter alone, however perfectly organized, cannot produce either ſpeech or thought, unleſs animated by a ſuperior principle? or, in other words, by a ſoul to direct its operations? Man, and the orang-outang, are the only animals which have calfs to their legs, and their poſteriors formed for walking erect. They likewiſe are the only ones which have a broad cheſt, flat ſhoulders, and the vertebræ conformable to each other; and the only animals whoſe brain, heart, lungs, liver, ſpleen, ſtomach, and inteſtines, are perfectly alike, and who have a vermicular appendix. In ſhort, the orang-outang has a greater reſemblance to man than even to baboons or monkies, not only by all the parts which I have indicated but alſo by the largeneſs of the viſage, the form of the cranium, the jaws, teeth, and other bones of the head and face; by the thickneſs of the fingers and thumb; by the ſhape of the nails; by the articulations of the joints, ſternum, &c. So that as we find, by comparing this animal with thoſe which reſembles it moſt, ſuch as the magot, baboon, or monkey, it has a greater conformity with the human than the animal ſpecies, which have all been mentioned under the general name of apes, the Indians are excuſable for having aſſociated it with man by the name of *orang-outang*, or the wild man of the woods. As ſome of the facts we have mentioned may appear ſuſpicious to thoſe who have not ſeen this animal, we ſhall ſupport them by the authority of the two celebrated anatomiſts Tyſon* and Cowper, who diſſected it with a moſt ſcrupulous nicety, and have given the reſults of the compariſons they made of all its parts with the human ſpecies. I ſhall only obſerve, that the Engliſh are not confined, like the French, to one ſingle word to denote animals of this kind: they have, like the Greeks, two different denominations, one for

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* The Orang-outang bears a greater reſemblance to man than to the apes or monkies; becauſe, 1. The hairs on his ſhoulders are directed downwards, and thoſe on the arm upwards. 2. His face is broader and flatter than that of the apes. 3. The form of his ears reſembles that of man, excepting the cartilaginous part being thin, like the apes. 4. His fingers are much thicker in proportion than the apes. 5. He is, in every particular, formed for walking erect, which

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which apes are not. 6. His poſteriors are thicker than thoſe of apes. 7. He has calfs to his legs. 8. His breaſt and ſhoulders are broader than any ape has them. 9 His heels are longer. 10. He has a cellular membrane, like man, under the ſkin. 11. His peritonæum is entire. 12. His inteſtines are longer than thoſe of the apes. 13. The inteſtinal canal is of different diameters, as in man, and not nearly equal, as in apes. 14. His cæcum has a vermicular appendix, which is not the caſe in any other ape; nor is the neck of the colòn ſo long as in the latter. 15. The inſertions of the biliary and pancreatic ducts have but one common orifice in the orang-outang as well as in man, but in all apes and monkies they are two inches aſunder. 16. The colon is longer than that of the apes. 17. The liver is not divided into lobes as in the apes, but entire, like that of man. 18. The biliary veſſels are alſo the ſame; as are 19. The ſpleen. 20. The pancreas; and 21. The number of lobes in the lungs. 22. The pericardium is attached to the diaphragm, as in man. 23. The cone of the heart is more blunt than in apes. 24. He has no pouches at the bottom of the cheeks, as other apes have. 25. His brain is larger than that of apes, and formed exactly like the human brain. 26. The cranium is rounder, and double the ſize of that of monkies. 27. All the ſutures of the cranium are ſimilar to thoſe of man, which is not the caſe in other apes or monkies. 28. He has the *os cribriforme* and the *criſta galli*, which the for thoſe without tails, which they call apes, and the other for thoſe with tails, which they term monkies. Thoſe which Tyſon ſpeaks of by the word *apes* muſt be the ſame animals as we have called pithecos, or pigmy, and the cynocephalus, or Barbary ape. I muſt alſo remark, that this author gives ſome characters of reſemblance

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the monkies have not. 29. He has the *ſelta equina* exactly the ſame as in man, while the apes and monkies have it more prominent. 30. They have the *proceſſus pleregoideus* like man, while the others have not. 31. The temporal bones, and the *oſſa bregmatis* are the ſame as in man, but in apes and monkies theſe bones are of a different form. And 32. The latter have the *os zygomaticus* large, whereas it is ſmall in this animal. 33. The teeth, particularly the grinders, are more like man's than thoſe of the ape or monkey, as alſo are 34. The tranſverſe proceſſus of the vertebræ of the neck, and the ſixth and ſeventh vertebræ. 35. The vertebræ of the neck are not perforated as in apes, but entire as in man. 36. The vertebræ of the back and their proceſſus, are the ſame as in man; and in the lower vertebræ, there are only two inferior proceſſus, but in the apes there are four. 37. As in man there are only five lumber vertebræ, but in monkies there are ſix or ſeven. 38. The ſpinal proceſſus of the lumber vertebræ are ſtraight as in man. 39. The *os ſacrum* is compoſed of five vertebræ, as in man, but in apes or monkies of only three. 40. As in man, the *coccix* is compoſed of four bones, and not perforated, whereas in apes, it is compoſed of a great number of bones, all of which are perforated. 41. In the orang-outang, there are only ſeven true ribs, and the extremities of the falſe ribs are all cartilaginous and articulated with the vertebræ; but in apes and monkies, there are eight true ribs, and the extremities of the falſe reſemblance and difference which have not a ſufficient foundation. I have, therefore, thought it neceſſary to make ſome obſervations on thoſe particulars, as we cannot too minutely examine a creature, which, though it has the form of a man, nevertheleſs belongs to the brute ſpecies.

1. Tyſon

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falſe ribs are oſſeous, and their articulations are placed in the inteſtines between the vertebræ. 42. His ſternum is broad like that of man, but which is narrow in monkies. 43. The bones of the four fingers are thicker than thoſe of apes. 44. The thigh bone is like that of man. 45. The rotula is round, long, and ſingle, but double in the apes. 46. The heel, *tarſus*, and *metatarſus* are like thoſe of man. 47. The middle toe is not ſo long as that of the apes. 48. The obliguus, inferior capitis, *pyriformis*, and *bicepo femoris* muſcles are like thoſe of man, bnt which are different in the apes or monkies.

The orang-outang *differs* from the human ſpecies more than from apes and monkies, by 1. The thumb is proportionally ſmaller than that of man, but larger than that of the apes. 2. The palm of the hand is longer and narrower. 3. The toes approach thoſe of the ape, by their length. 4. As he does by having the large toe of the foot being placed at an inch diſtance from the next one, and which makes him rather to be conſidered as a four-handed animal than a quadruped. 5. His thighs are ſhorter than thoſe of man; and 6. His arms are longer. 7. The teſticles are not pendulous. 8. The epiloon is larger. 9. The gall-bladder is longer. 10. The kidnies are rounder, and the ureters are alſo different from man. 11. The bladder is longer. 12. He has no *frœnum* to the prepuce. 13. The bone in the orbit of the eye is ſunk deeper. 14. He has not the two cavities below the

1. Tyſon gives, as a particular character of man and the orang-outang, the having the hair on their ſhoulders inclined downward, and that on the arms upwards. It is true that moſt quadrupeds have their hair directed downwards, or backwards, but this is not without ſome exceptions. The ſloth and the leaſt ant-eater have the hair on their anterior parts inclined backward, and that on the crupper and loins directed forwards; therefore this character carries

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the *tella turica.* 15. The maſtoid and ſtyloid proceſſes are extremely ſmall. 16. The bones of the noſe are flat. 17. The vertebræ of the neck are ſhort, flat before, and their ſpinal proceſſes are not forked. 18. He has no ſpinal proceſſes in the firſt vertebræ of the neck. 19. He has thirteen ribs on each ſide. 20. The *oſſa ilia* are longer, narrower, and leſs concave than in man. 21. He alſo wants the following muſcles, which are found in man: the *occipitales, frontales, dilataſories alarum naſi, ſeu elevatores labii ſuperioris, interſpirales colli, glutæi minimi, extenſor digitorum pedis brevis, et tranſverſatis pedis.* 22. The following muſcles are ſometimes found in man, but not in the orang-outang, the *pyramidalis, caro muſculoſa quadrata,* the long tendon and the fleſhy body of the *palmaris,* the *attolens* and *retrahens auriculum.* 23. The *elevator* muſcles of the claricles of the orang-outang are like thoſe of the ape, and different from man; as are alſo 24. The muſcles called *longus colli, pectoralis, latiſſimus dorſi, glutæus maximus et medius, pſoas magnus et parvus, iliacus internus, et graſtrocnemius internus.* And 25. He differs from man in the figure of the *deltoides, pronator radii teres, et extenſor pollicis brevii.* Tyſon's Anat. of the Orang-Outang.

carries no great weight in comparing the orang-outang with man.

2. The four firſt differences alſo in the paſſage I have quoted are very ſlight, or ill-founded. The firſt is the difference of ſize, which character is very uncertain, eſpecially as the author himſelf obſerves that this animal was very young. The ſecond, third, and fourth, are drawn from the form of the noſe, the quantity of hair, and other trivial circumſtances. It is the ſame with many others, which may be retrenched ; for example, the twenty-firſt character is drawn from the number of the teeth. It is certain that both this animal and man have the like number of teeth, and if the one in queſtion had only twenty-eight it ought to be attributed to its youth, for we know that the human race have not more in the early part of their days.

3. The ſeventh difference is likewiſe very equivocal ; children's purſes are generally very right, and this animal being young ought not to have had them pendulous.

4. The forty-eighth character of reſemblance, and the twenty-firſt, twenty-ſecond, twenty-third, twenty-fourth, and twenty-fifth marks of difference, only denote the preſence or ſhape of certain muſcles, which as they

vary in moſt individuals of the human ſpecies ought not to be conſidered as eſſential characters.

5. Every difference and reſemblance drawn from parts too minute, ſuch as the proceſſes of the vertebræ, or that are taken from the poſition and magnitude of certain parts, ſhould be conſidered only as acceſſory characters; ſo that Tyſon's whole anatomical table may be reduced to the eſſential differences and reſemblances which we have already mentioned.

6. I have thought it neceſſary to point out other more general characters of this animal, ſome of which have been omitted by Tyſon, and others but badly indicated. Firſt, The orang-outang has no pouches within his cheeks on each ſide of the jaw, like all the reſt of the ape and monkey tribe, in which they put their proviſions before they ſwallow them, for the inſide of his mouth is perfectly like that of man. Secondly, The gibbon, the Barbary ape, and all the baboon and monkey kind, except the douc, have their poſteriors flat, with calloſities on them. The orang-outang is the only one which has thoſe parts plump, and without calloſities. The douc alſo has no calloſities, but then his poſteriors are flat and covered with hair, ſo that in this reſpect the

douc forms the ſhade between the orang-outang and the monkies ; as the gibbon and magot form the ſame knot with reſpect to the pouches on each ſide of the jaw. Thirdly, The orang-outang is the only animal who has calfs of the legs, and fleſhy poſteriors. This character ſhews that it is formed much better than any other animal to walk upright ; but as its toes are very long, and its heels higher ſituated than in man, it runs with greater eaſe than it walks, and there would be occaſion for artificial heels higher than thoſe of our ſhoes to enable it to walk eaſily for a long time together. Fourthly, Though the orang-outang has thirteen ribs, and man only twelve, this difference does not approximate it nearer to the baboon or monkey than it removes it from man, becauſe the number of ribs varies in moſt of thoſe ſpecies, ſome of them having twelve, others eleven, ten, and ſo on. So that the only differences between the body of this animal and that of man are reduced to two, viz. the figure of the bones of the pelvis, and the formation of the feet ; theſe, therefore, are the only conſiderable parts by which the orang-outang bears a greater reſemblance to the other apes than it does to the human ſpecies.

From this examination, which I have made with all the exactneſs I am capable of, we may form a proper judgment of this animal. If there was a ſtep by which we could deſcend from human nature to that of the brutes, and if the eſſence of this nature conſiſted entirely in the form of the body, and depended on its organization, the orang-outang would approach nearer to man than to any other animal. Seated in the ſecond rank of beings, if it had not in its power to command in the firſt it would at leaſt make others feel its ſuperiority. If the principle of imitation, by which he ſeems ſo cloſely to copy actions of man, was a reſult of thought or reaſon, this ape would be at a ſtill greater diſtance from the brute ſpecies, and nearer the human; but, as we have obſerved, the interval which ſeparates them is not trifling, and the reſemblance in form, conformity of organization, and motions of imitation, which ſeem to reſult from thoſe ſimilitudes, neither bring it nearer the nature of man, nor raiſes it above that of the brutes.

Diſtinctive Characters of this Species.

The orang-outang has no pouches on the ſides of the jaws, no tail, nor any calloſities on the poſteriors, which laſt are plump and fleſhy: all his teeth are ſimilar to thoſe of man: his face is flat, naked, and of a ſwarthy colour: his hands, feet, ears, breaſt, and belly, are alſo naked: the hair on the head deſcends on the ſides of the temples like treſſes; on his back and loins there is but a very ſmall quantity of hair*: he is about five or ſix feet high, and always walks erect on his two hind feet. We have not been able to verify whether the females are ſubject to periodical courſes like women; analogy will ſcarcely ſuffer a doubt to ariſe to the contrary.

THE PITHECOS, OR PIGMY.

ARISTOTLE ſays, "there are animals whoſe natures are ambiguous, and partake in ſome meaſure of the human and quadruped ſpecies; ſuch as the pithecos, the kebes, and the cynocephali. The kebe is a pithecos with a tail;

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* According to Pennant this hair is of a reddiſh colour, and ſhaggy.

a tail; the cynocephalus is perfectly like the pithecos, but larger, ſtronger, and has a more pointed muzzle, approaching very near that of a bull-dog, from whence it derives its name: its manners are alſo more ferocious, and its teeth ſtronger than thoſe of the pithecos, and more reſemble thoſe of a dog." It is clear, from this paſſage, that neither the pithecos nor cynocephalus, mentioned by Ariſtotle, have any tail; for he ſays, that the pithecos with a tail, is called *kebe*; and that the cynocephalus reſembles the pithecos in every particular, except the muzzle and teeth. Ariſtotle, therefore, ſpeaks of two apes without tails, the pithecos and the cynocephalus; and of others with tails, which he calls *kebes*. Now, to compare what we at preſent know, with what was known by Ariſtotle, we ſhall obſerve, that we have ſeen three ſpecies of apes without tails, namely, the orang-outang, the gibbon, and the magot, not one of which is the pithecos; for the two firſt were certainly unknown to Ariſtotle, thoſe animals being only found in the ſouthern parts of Africa and India, which were not diſcovered till after his time: beſides they have very different characters from thoſe he aſcribes to the pithecos. But the third ſpecies, which we call the magot, or

Barbary ape, is the cynocephalus of Ariſtotle, for it poſſeſſes all its characters; it has no tail, its muzzle is like that of a bull-dog, and its canine teeth are large and long. This animal is alſo found in Aſia Minor, and in other provinces of the Eaſt, where the Greeks were well acquainted with. The pithecos belongs to the ſame country, but we have not ſeen it, and know it only from the relations of travellers, but, although during twenty years, in which we have made the reſearch of theſe animals our ſtudy, this ſpecies has never fell under our inſpection, we do not doubt but it as really exiſts as the cynocephalus. Geſner and Johnſton have given figures of this pithecos. M. Briſſon mentions his having ſeen it, and he diſtinguiſhes it from the cynocephalus, which he alſo ſaw, and confirms Ariſtotle's remark that theſe two animals perfectly reſemble each other in every reſpect, excepting the face, which is ſhorter in the cynophalus than in the pithecos. We have already obſerved, that the orang-outang, the pithecos, the gibbon, and the magot, are the only animals to which we can apply the generic name of ape, being the only animals which have no tail, and rather chooſe to walk on two legs than four. The orang-outang, and the gibbon, are very different from the pithecos and the magot. But, as the two latter perfectly reſemble each other, except in the length of the muzzle, and ſize of the canine teeth, they have been often taken one for the other. They have always been mentioned by the common name of ape, even in languages which have one name for apes without tails, and another for thoſe which have tails. They are both called by the name of *aff* in German, and *ape* in Engliſh; and it is only among the Greeks that we find that each of theſe animals has a proper name. The word cynocephalus is rather an adjective than a proper ſubſtantive, for which reaſon we have not adopted it.

From the teſtimonies of the ancients, the pithecos, or pigmy, ſeems to be the moſt gentle and docile of all the ape ſpecies that were known to them; and that it was common in Aſia, as well as in Lybia, and in the other provinces of Africa, frequented by the Greek and Roman travellers. From which I preſume that we muſt refer the following paſſages of Leo Africanus, and Marmol to the pigmy. They ſay, that the apes with long tails, which are ſeen in Mauritania, and are called by the Africans *mones*, come from the negro country; but that thoſe without tails are found in great numbers, and are natives of the mountains of Mauritania, Bugie, and Conſtantine. "Theſe animals, ſays Marmol, have feet and hands, and, if I may be allowed the expreſſion, a human face; they have an appearance of much vivacity, and ſeem very malicious. They live upon corn, herbs, and all ſorts of fruits; to obtain which they ſally forth in large troops, to plunder the gardens or fields; but before they venture out on theſe expeditions, one of the company aſcends an eminence, and ſurveys the country round. If there is no perſon near, he makes a ſignal, by a cry, for his companions to proceed, remaining himſelf, however, at his ſtation; but as ſoon as he perceives any one coming he ſets up a loud cry, and the whole company ſcamper off with the utmoſt precipitation, and jumping from tree to tree, retreat to the mountains. It is a great curioſity to ſee theſe animals retreat; for the females carry four or five young ones upon their backs, and with this heavy load, leap with great agility from branch to branch; yet great numbers of them are taken by different ſnares, notwithſtanding all their cunning. When they are wild, or angry, they bite furiouſly, but by coaxing, they are eaſily tamed. They do great damage to the gardens and fields, plucking, pulling down, and tearing up, every thing that comes in their way, whether ripe or not, and often deſtroy more than they can eat or carry away. Thoſe that are tamed, perform things almoſt incredible, and imitate almoſt every human action!" Kolbe relates nearly the ſame facts with reſpect to the apes of the Cape of Good Hope; but the deſcription and figure he gives of them, plainly prove they are baboons, having a ſhort tail, a long muzzle, ſharp nails, &c. they are alſo much larger and ſtronger than the apes of Mauritania. We may therefore preſume, that Kolbe only copied this paſſage from Marmol, and applied the natural habitudes of the Mauritania pigmies to the baboons of the Cape of Good Hope.

The pithecos, the magot, and the baboon, were known to the ancients: theſe animals are found in Aſia Minor, Arabia, Upper Egypt, and in all the northern parts of Africa. We may, therefore, apply this paſſage of Marmol's to all the three; but it is clear, it does not agree with the baboon, for it ſays theſe apes have no tails; and what makes me of opinion it is not a magot, but a pithecos, is, that the former is not eaſily tamed, that it commonly produces only two young ones, and not four or five, like that of which Marmol ſpeaks;

and the latter being alſo leſs, muſt produce a greater number at a time. Beſides, the pithecos, or pigmy, is more gentle and docile than the magot, or Barbary ape, which is ſcarcely ever thoroughly tamed. From theſe reaſons I am convinced, that we muſt not apply this paſſage in the above author to the magot, but to the pithecos. In fact, the ſame remark may be made to a paſſage of Rubruquis, who in his diſcourſe on the apes of Cathay, ſays, "that they nearly reſemble the human form in every particular; that their height is not above a foot and a half, and their body covered all over with hair; that they live in holes, that the natives take them, by putting ſtrong and inebriating liquors in the places they inhabit; that a number of them come together to drink of theſe liquors, at the ſame time making a cry which ſounds like *chinchin*, from whence they have obtained the appellation of *chinchins*; and that having intoxicated themſelves they fall aſleep, when the hunters eaſily ſurprize and carry them away." Theſe characters agree with the pithecos, and not at all with the Barbary ape. We have ſeen one of the latter alive, but never heard it pronounce the word *chinchin*. It was above a foot and a half in height, and had a leſs reſemblance to the human form than what this author aſſerts. We have the ſame reaſons for applying Proſper Alpinus's figure and deſcription to the pithecos, rather than to the magot. He aſſerts, that the ſmall apes without tails, which he ſaw in Egypt, were ſooner and more eaſily tamed, and more ſagacious, lively, and diverting, than thoſe of any other kind. This plainly diſtinguiſhes it from the magot, which is a filthy, ſullen, vicious, untractable animal, and is never fully tamed, ſo that the characters given by Proſper Alpinus to his ape without a tail, does not agree, in any reſpect, with the Barbary ape, and can belong to no other animal than the pithecos.

Diſtinctive Characters of this Species *.

The pithecos, or pigmy, has no tail; his canine teeth are not proportionably larger than thoſe of man; his face is flat, as are likewiſe his nails, which are rounded at the top like thoſe of the human ſpecies; he walks erect, is about a foot and a half high, and of a gentle and tractable diſpoſition. The ancients aſſert that the female is ſubject to a periodical emanation, and analogy leaves us no reaſon to doubt the fact.

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* This ape is about the ſize of a cat, and of an olive brown above, and yellowiſh beneath. *Pennant.*

THE GIBBON *, OR LONG-ARMED APE.

THE Gibbon, *(fig.* 196.*)* always keeps itſelf erect, even when it walks on all four feet, its arms being as long as both its body and legs. We have ſeen one of theſe animals alive; it was but young, and not more than three feet high; therefore we may preſume that it had not attained its full ſize, and that when in a free ſtate it might grow to four feet. It had no appearance of any tail, and the character which evidently diſtinguiſhes it from all other apes, is the extraordinary length of its arms. It had a circle of white hair all round the face, which gave it a very remarkable appearance: its eyes are large but ſunk deep in the head; its face is flat nearly reſembling that of a man, and of a tawny colour, and its ears, though well proportioned, are naked. This animal, next to the orang-outang, and the pithecos, would approach neareſt to the human form, was it not deformed by the exceſſive length of its arms; for man in a ſtate of nature would have a ſtrange appearance; his hair and beard, if they were neglected, would encircle his viſage not unlike that which ſurrounds the face of the gibbon.

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* *Gibbon* is the name by which M. Dupleix ſent us this animal from the Eaſt-Indies. I thought at firſt that this was an Indian word, but in looking over the nomenclatura of the monkey tribe, I found a note of Dalechamp's upon Pliny, that Strabo has deſcribed the cephos by the word *Keipon*, from which, probably, *Guibon*, *Gibbon*, is derived. The paſſage of Pliny, with Dalechamp's note, are as follow: " Pompeii magni primum ludi Oſtenderunt ex Ethiopia, quas vocant *cephos* † quarum pedee poſteriores pedibus humanis & cruribus, priores manibus fuere ſimiles; hoc animal poſtea Roma non vidit."

† Cephos; *Strabo, lib.* xv. Keipon *vocant eſſeque tradit facie ſatyro ſimilem.* Dal. Plin. Hiſt. Nat. lib. viii. cap. 19. Nota. *The* cebus *of the Greeks, the* cephos *of Pliny, which are pronounced* kebus *and* kephus, *might very poſſibly take their origin from* koph, *or* kophin, *which is the name of an Ape in the Hebrew and Chaldean.*

This ape appeared to be of a gentle and tractable diſpoſition; its motions were neither too raſh, nor too precipitate. It was fed on bread, fruit, almonds, &c. and calmly received the food that was preſented. It was very averſe to cold and wet, and did not live long after being brought into a foreign climate; it is a native of the Eaſt-Indies, and particularly along the coaſts of Coromandel, Malacca, and the iſlands of Molucca. This animal is not met with in the leſs ſouthern provinces, and there is every reaſon to conclude that the ape found in the kingdom of Ganaura, on the frontiers of China, ought to be referred to the gibbon, although it is called by ſome travellers *feſé*. This ſpecies varies both in ſize and colour, for there are two in the royal cabinet, one of which, although adult, is much ſmaller than the other, and is brown on thoſe parts of the body where the other is black; but as they perfectly reſemble each other in every other reſpect, we have not the leaſt doubt they both belong to the ſame ſpecies.

Diſtinctive Characters of this Species.

The gibbon has no tail; there are ſmall calloſities on his poſteriors; his face is flat, brown, and ſurrounded with a circle of white hairs; his canine teeth are larger in proportion than thoſe of man; his ears are naked, black, and round: his hair is black, brown, or ſometimes grey, with age; his arms exceſſively long; he walks erect, and he is about two feet and a half, or three feet high. The female is ſubject to a periodical emanation.

THE MAGOT, OR BARBARY APE.

THIS animal, of all apes which have no tail, is that which can beſt bear with the temperature of our climate. We kept one for many years. In the ſummer, it remained in the open air with pleaſure; and in the winter, might be kept in a room without any fire. It was filthy, and of a ſullen diſpoſition: it equally made uſe of grimace to ſhew its anger, or expreſs its hunger: its motions were violent, its manners aukward, and its phyſiognomy more ugly than ridiculous. Whenever offended it grinned and ſhewed its teeth. It put whatever was given to it into the pouches of the cheeks, and commonly eat every thing that was offered, except raw fleſh, cheeſe, or any thing that had undergone a kind of fermentation. When inclined to ſleep it was fond of rooſting on a wooden or iron bar. It was always kept chained, for, notwithſtanding its long domeſticity, it was neither civilized nor attached to its keepers. Apparently it had been badly

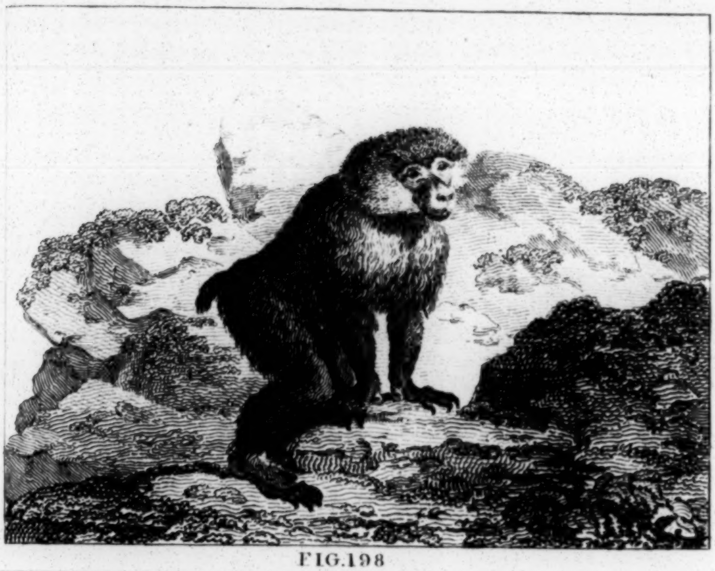

FIG. 198

Large Baboon

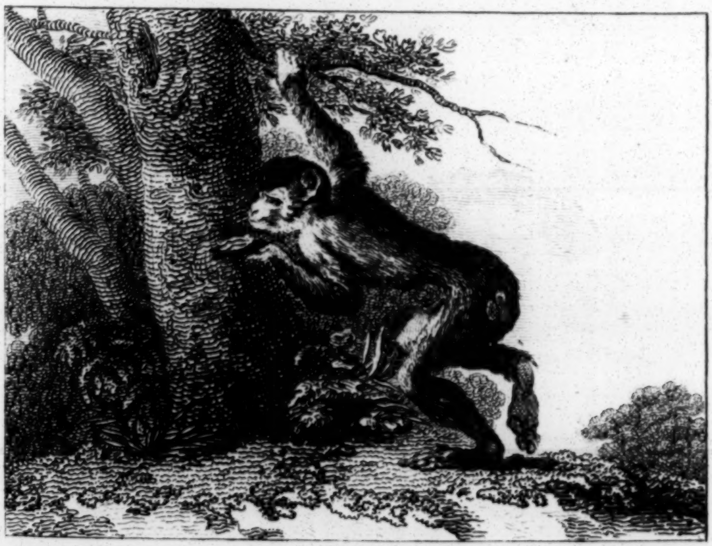

FIG. 197

Magot

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badly educated, for I have ſeen others of the ſame ſpecies who were more ſagacious, more obedient, more gay, and ſo tractable as to be taught to dance, keeping time, and ſuffer themſelves quietly to be clothed.

This ape (*fig.* 197.) is two feet and an half, or three feet high, in its erect poſture; but the female is not ſo large as the male. It rather chuſes to walk on all four than on two feet. When it ſleeps it is almoſt always ſitting; ſupporting itſelf on two very prominent calloſities on its poſteriors; and the anus being placed higher, his body is more inclined when ſitting than that of man. It differs from the *pithecos*, firſt, in the form of its ſnout, which is thick and long, like that of a dog; whereas, the pithecos has a flat viſage. Secondly, in having long canine teeth. Thirdly, its nails are neither ſo flat nor ſo round; and, Fourthly, becauſe it is larger, and of a more ſullen and untractable diſpoſition.

There are alſo varieties to be met with in this ſpecies. We have ſeen ſome of different ſizes, with various coloured hair, and more or leſs buſhy. Even the five animals of which Proſper Alpinus has given us the figures and deſcriptions, under the name of *cynocephali*, ſeem to be all magots, only differing in ſize, and ſome other characters too ſlight to form diſtinct ſpecies. The magot ſeems to be diſperſed over every warm climate in the Old Continent, and is found in Tartary, Arabia, Ethiopia, Malabar, Barbary, Mauritania, and as far as the Cape of Good Hope.

It is, probably, this ſpecies of ape which Robert Lade ſpeaks of in the following terms: "We travelled over a large mountain in the neighbourhood of the Cape of Good Hope, where we diverted ourſelves with hunting large apes, which are there in great plenty. I am not able either to deſcribe the various arts practiſed by theſe animals, while we were in purſuit of them; their ſwiftneſs, nor the impudence with which they returned. Sometimes they ſuffered us to approach ſo nigh, that I thought myſelf certain of ſecuring them, but when I made the attempt, the one I meant to ſeize would make a ſudden leap, ſpring above ten paces from me, climb up a tree with the greateſt agility, and then looking down upon us with perfect indifference, ſeemed to derive pleaſure from our aſtoniſhment. There were ſome ſo exceedingly large, that if our interpreter had not aſſured us they were not of a ferocious nature, our number would not have appeared ſufficient to have protected us from their attacks.

tacks. As it would have been uſeleſs to kill them, we made no uſe of our guns; but the captain, taking aim at a very large one, which was ſeated on a tree, after having tired us with a long purſuit, had no ſooner preſented his piece but the animal, probably from the remembrance of the execution of ſome of his companions by the like manner, was ſo greatly terrified that it fell almoſt motionleſs at our feet, and we had not the leaſt trouble to ſecure it; however when it revived we had occaſion for all our ſtrength and addreſs to keep it, defending itſelf by biting thoſe who came near, and we were at laſt under the neceſſity of covering its head with our handkerchiefs."

Diſtinctive Characters of this Species.

The magot has no tail, though he has a ſmall portion of ſkin, which has ſome appearance of one. He has pouches on the ſides of his jaws, and thick calloſities on his poſteriors; canine teeth much longer in proportion than thoſe of man; and the bottom part of the face turned up like that of a bull-dog; his viſage is hairy, or rather covered with a down: he is of a greeniſh brown on his body, and a pale yellow on his belly: he walks erect on his hind feet, but oftener on all four. He is about three feet and an half high, and there ſeems to be ſome of them ſtill larger. The females have a periodical emanation.

THE PAPION, OR THE BABOON, PROPERLY SO CALLED.

IN man phyſiognomy may deceive, and the figure of the body does not give an idea of the qualities of the mind; but in the brute creation we may always judge of their diſpoſition by their looks, and form a juſt conjecture of their internal qualities from their external form. If we compare the ape and baboon by this eaſy rule, we ſhall at once be led to pronounce, that they greatly differ in their diſpoſitions, and that the latter are infinitely more fierce, ſavage, and malicious, than the former. The orang-outang, which ſo nearly reſembles man in its figure, approaches alſo neareſt in intelligence, gentleneſs of manners, and the pliancy of diſpoſition. The magot which is ſet farther from the human figure, and approaches that of the brutes in the form of its face and canine teeth; is wild, impetuous, and diſobedient; but the baboon, which only reſembles man in the hands, approaches nearer, and is, in fact, of the ſavage tribe, having a tail, ſharp nails, and a prominent muzzle. The baboon which I ſaw *(fig. 198.)* was not ſo extremely ugly, yet it excited horror. It ſeemed exceedingly ſavage and ferocious, continually gnaſhing its teeth, fretting with rage and furiouſly reſtleſs. It was obliged to be confined in an iron cage, the bars of which it ſo forcibly moved with its hands that the ſpectators were ſtruck with apprehenſion. It was a ſquat animal, whoſe ſhort limbs and compact body indicated vaſt ſtrength and agility. The long hair with which it was covered ſeemed to add to its apparent abilities, which however was, in reality, ſo great that it could eaſily overcome more than a ſingle man, unleſs properly armed It conſtantly appeared excited by that paſſion which renders the mildeſt animals furious. It was inſolently laſcivious, and ſeemed fond of affecting to gratify its ſtrong deſires in public. In ſome meaſure we may ſay Nature ſeems to have provided him for this deteſtable and uncommon kind of impudence; for in all other animals theſe parts are ſomewhat covered with a veil; but in the baboon they are naked, and more conſpicuous from the other parts of the body being covered with hair; its poſteriors are quite naked; its genitals are pendulous, the anus uncovered, and the tail always elevated; and inſtead of feeling any ſhame it ſeemed to make a parade of its nakedneſs, preſenting its poſteriors oftener to the ſpectators than his head, particularly in the preſence of women, before whom he diſplayed the moſt matchleſs impudence which could proceed only from the moſt immoderate deſires. The magot, and ſome others of the ape ſpecies, have the ſame ſtrong inclinations, but as they are leſs in ſize, and not ſo petulant, they are more eaſily corrected, whereas the baboon is quite incorrigible, and totally untractable.

But, however violent the deſires of theſe animals may be, they do not breed in temperate climates. The female brings forth uſually but one young at a time, which ſhe carries in her arms, and in a peculiar manner clinging to her breaſt: ſhe is alſo ſubject to periodical emanations. Theſe baboons, tho' miſchievous and ferocious, are not carnivorous; they principally feed upon fruits, roots, and corn. They generally aſſemble together in companies, for the purpoſe of ſallying forth to commit their depradations on the neighbouring vineyards or orchards.

Of theſe animals Kolbe ſpeaks in the following terms:—“ The baboons are extremely fond of grapes, apples, and ripe fruit; they aſſemble together in great numbers, and proceed on their enterprize with previous deliberation. The dogs who are ſet to watch do not eaſily conquer theſe animals, unleſs rendered inactive by exceſs in eating, as they are extremely agile, and make dexterous uſe of their teeth and claws. On theſe occaſions a part of them enter the incloſure, while ſome of the company ſtand on the wall as centinels; the reſt are ſtationed without, at a ſmall diſtance from each other, and thus form a line, which extends from the incloſure to their place of rendezvous, which is generally in ſome craggy mountain. Every thing being thus diſpoſed the plunderers within the orchard begin their operations, and throw the fruit of all ſorts to them without as faſt as they can gather it; or, if the wall or hedge be very high then to thoſe that ſit at the top, who, with great addreſs, toſs it to thoſe below; and thus the fruit is pitched from one to another all along the line, till it is ſafely depoſited at their head quarters. They are ſo dexterous and quick-ſighted that they ſeldom ſuffer it to fall; and while the buſineſs is going forward, which they conduct with great expedition, a moſt profound ſilence is obſerved among them. The centinels during the whole time continue upon the watch, and if they perceive any perſon approaching, they inſtantly ſet up a loud cry, and at this ſignal the whole company retreat with aſtoniſhing expedition.

Diſtinctive Characters of this Species.

The papion, or baboon, has a pouch on each ſide of his cheeks; he has calloſities on his poſteriors, which are naked, and of a red colour; his tail is crooked, and about ſeven or eight inches long. The canine teeth are proportionally much thicker and longer than thoſe of men. His muzzle is very thick and long, his ears naked, his body and limbs are ſtrong, thick, and ſhort; his genitals are naked, and of a fleſh colour, his hair long, buſhy, of a reddiſh brown[*], and pretty uniform over the whole body. He walks oftener on four than

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[*] The middle of the face and forehead naked, and of a bright vermillion colour, the tip of the noſe of the ſame; the ſides of the noſe broadly ribbed, and of a fine violet blue; cheeks, throat, and goat like beard, yellow; hair on the forehead very long, turned back, and black; head, arms, and legs covered with ſhort hair, yellow and black intermixed; the breaſt with long whitiſh yellow hairs; the ſhoulders with long brown hair. This deſcription is from a ſtuffed ſpecimen in Sir Aſhton Lever's Muſeum. *Pennant's Synopſis.*

on two feet. When erect, he is from three to four feet high. There ſeem to be different ſizes of this ſpecies ; but after the moſt careful compariſon, we could perceive no other differences between them than the ſize, which does not proceed from their age; for the ſmall baboon ſeemed to be an adult as well as the large.

THE MANDRILL.

THIS Baboon *(fig.* 199.) is an ugly diſguſting animal ; his noſe, or rather two noſtrils, are flat, from which conſtantly iſſues a thick matter, which he takes care at intervals to lick off with his tongue and ſwallow. His head is large, and muzzle very long. He is of a ſquat form, and his poſteriors are of a blood red, his anus is placed almoſt as high as his loins, his face is of a bluiſh colour, and ſtrongly ſeamed with wrinkles, which ſtill increaſes his frightful and loathſome appearance. He is larger than the baboon, but more tame and gentle, and ſeemed to be more tractable and modeſt, although as diſagreeable in every other reſpect.

This baboon is found on the Gold Coaſt, and in the other ſouthern provinces of Africa, where the negroes call him *boggo*, and the Europeans *mandrill*. This animal is the largeſt of all the apes or baboons, the orang-outang excepted. Smith relates, that a female mandrill was given him, which was not above ſix months old, and had then attained the ſize of an adult baboon; he adds, that theſe animals walk always erect; that they ſigh and cry like the human ſpecies; that they have a violent paſſion for women, which they never fail to gratify, if they get them within their reach.

Diſtinctive Characters of this Species.

The mandrill has pouches on the ſides of his cheeks, and calloſities on his poſteriors. His tail is very ſhort, not exceeding two or three inches; his canine teeth are much thicker and longer than thoſe of man. The muzzle is very thick, long, and ſurrounded on both ſides with deep longitudinal wrinkles. His face is flat, naked, and of a bluiſh colour. His ears, palms of his hands, and ſoles of his feet, are alſo naked. His hair is long, of a reddiſh brown over the body, and grey upon the

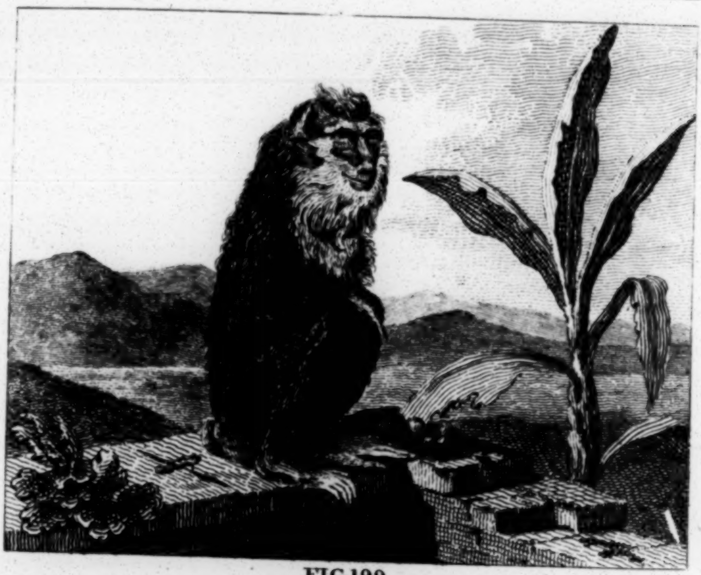


FIG 199

Mandrill

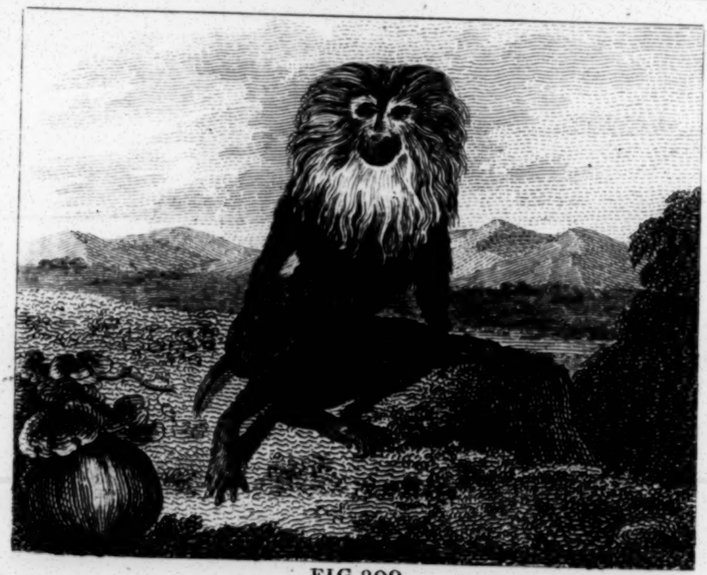


FIG.200

Ouanderou

the breaſt and belly. He walks erect on two feet, but ſometimes on all four; he is from four feet to four feet and an half high when upright. The females are alſo ſubject to the periodical emanations.

THE OUANDEROU, AND THE LOWANDO.

THOUGH theſe two animals ſeem to be but one ſpecies, we have preſerved the two names they bear in Ceylon, as they at leaſt conſtitute two diſtinct breeds. The body of the ouanderou *(fig. 200.)* is covered with brown and black hairs; he has a large long white head of hair, and a monſtrous white beard. The body of the lowando, on the contrary, is covered with whitiſh hairs, and the hair on his head and beard is black. There is ſtill a third race, or variety, found in the ſame country, which may, poſſibly, be the common ſtock of the other two, becauſe it is of an uniform white colour over the body, head, and beard. Theſe animals are not apes but baboons, of which they have all the characters, as well in ſhape as in diſpoſition; they are of the ſame ſavage nature, and even more ferocious. They have a long muzzle, a ſhort tail, and are nearly of the ſame ſize as the baboon, but their hind parts ſeem to be more feeble. The perſon to whom this anſmal (from which our figure was taken) belonged, told us it came from South America, and that it was called *cayouvaſſou.* I directly recollected that this word is a Braſilian term, which is pronounced ſajououaſſou, and ſignifies *ſapajou*; conſequently, that this name was miſapplied, for all ſapajous have long tails, whereas the animal we are treating of is a baboon with a very ſhort tail. Beſides not a ſingle ſpecies of baboons exiſts in America. Errors, with reſpect to climate, often happens, eſpecially among thoſe who exhibit wild beaſts, who, when they are ignorant of the real name of the animal, and the country it is a native of, ſeldom fail to apply a fictitious denomination, which, whether true or falſe, equally anſwers their purpoſe.

The ouanderous, when not tamed, are ſo exceedingly ſavage and miſchievous, that they are obliged to be confined in iron cages, where, oftentimes, they are agitated with great fury. But when taken young they are eaſily tamed, and even ſeem to be more ſuſceptible of education than any other baboon. The Indians take a pleaſure to inſtruct them, and pretend that the reſt of the ape and monkey tribes pay a great deference to theſe baboons, who are poſſeſſed of more gravity and knowledge. In their free ſtate they are extremely wild, and remain conſtantly in the woods. If we may credit travellers, thoſe which are all white are the ſtrongeſt and moſt miſchievous. They have a ſtrong paſſion for women, and are ſtrong enough to raviſh them when found alone, inſomuch, as often to kill them.

"The white monkies, ſays Forbin, are ſometimes as big as the largeſt bull-dogs, and are more dangerous than the black. They have a ſtrong deſire for women, and often, after having greatly injured them, finiſh their cruelty by ſtrangling. Sometimes they even come to their houſes, but the natives of Macacar, who are very jealous of their wives, take care to prevent the entrance of ſuch hideous rivals into their habitations; and the females, not liking either the manners or figure of ſuch gallants, boldly aſſiſt their huſbands to oblige their ugly ſuitors to retract, but which they are not able to accompliſh before they have damaged or plundered every thing that lies in their way.

Diſtinctive Characters of this Species.

The ouanderou has pouches on each ſide of his cheeks, and calloſities upon his poſteriors. The tail is ſeven or eight inches long. The canine teeth are much larger and longer than thoſe of man. The muzzle is long and thick; his head covered with long hair; and he has a great beard of coarſe hairs. His body is long and ſlender behind. There are ſome among this ſpecies which vary by the colour of their hair; ſome have it black on the body, with a white beard; and others, white on the body with a black beard. They walk more commonly on four than on two feet, and when erect they are about three feet, or three feet and an half high. The females are ſubject to a periodical emanation.

THE MAIMON.

THE apes, baboons, and monkies, form three tribes, with intervals between each, the firſt of which is filled by the magot, and the ſecond by the maimon: the latter forms the ſhade

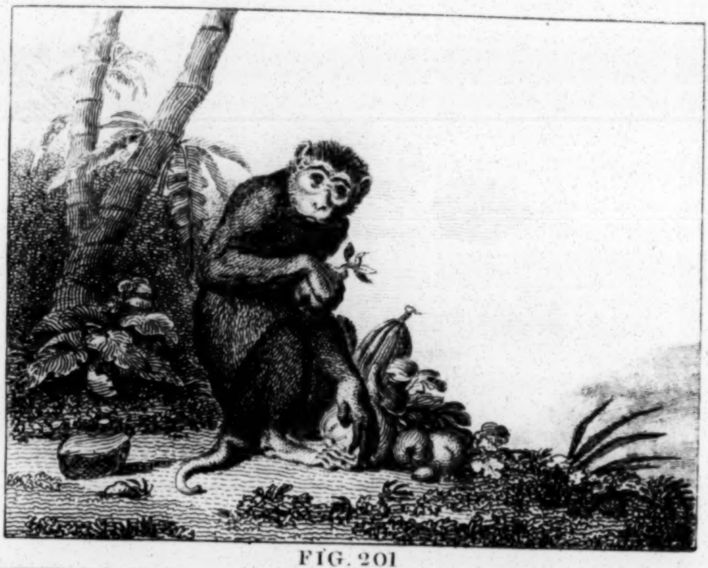
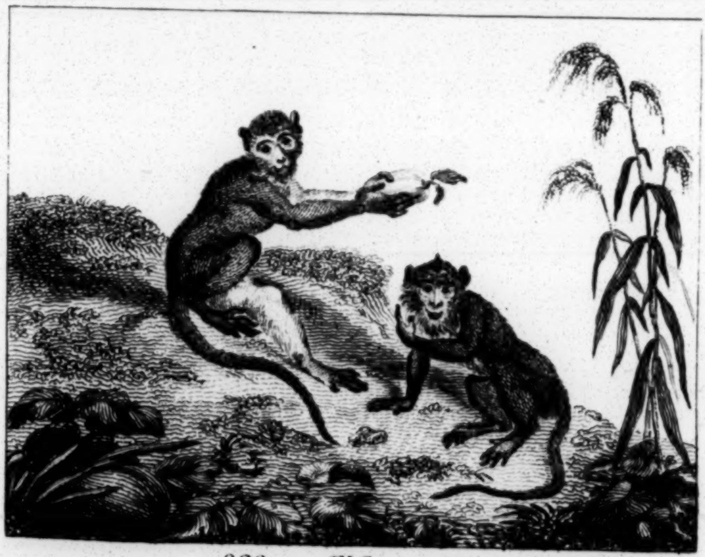


FIG. 201

Maimon



202 FIG. 203

Macaque *Aigrette*

ſhade between the baboons and monkies as the magot does between the apes and baboons. The maimon reſembles the baboons by his thick and large muzzle, and by his ſhort and crooked tail; but he differs from them, and approaches nearer the monkies, by his gentle diſpoſition and ſmallneſs of his ſize. Edwards has given a figure and deſcription of this animal by the denomination of the *pig-tailed ape*. This particular character is ſufficient to diſtinguiſh him, for he is the only baboon or monkey that has a naked tail, curled like that of a pig. He is nearly of the ſame ſize as the magot, and ſo ſtrongly reſembles the macaque that he might be taken for a variety of that ſpecies, if his tail was not entirely different. His face is naked, and of a tawny colour; his eyes are of a cheſnut, with black eyebrows. His noſe is flat, his lips thin, and furniſhed with ſome rough hairs, but too ſhort to form whiſkers. His genital parts are concealed within the ſkin, therefore the maimon, though very ſpirited and full of fire, has none of that impudent petulance of the baboons. He is gentle, tractable, and even fond. He is found in Sumatra, and even in ſome other ſouthern provinces of India; of courſe it is with difficulty he can endure the cold of our climate.

That which we ſaw at Paris lived but a very ſhort time; and Edwards ſays, that which he deſcribes lived only one year in London. "The pig-tailed monkey (ſays that author) was brought to England in 1752. It was extremely ſpirited and full of action, and was about the bigneſs of our common houſe-cat. It was a male, and lived under my care only one year. While I had mine, a female of the ſame ſpecies, but much larger, was ſhewn at Bartholomew-fair, London. I brought the two exiles together to compare them, and the moment they came into each other's preſence they teſtified their mutual ſatisfaction, and ſeemed quite tranſported at the interview."

Diſtinctive Characters of this Species.

The maimon has pouches on each ſide of his cheeks, and calloſities on his poſteriors: his tail is naked, curled up, and about five or ſix inches in length. The canine teeth are not longer in proportion than thoſe of men; the muzzle is very large; the orbits of the eyes are prominent above; the face, ears, hands, and feet, are naked, and of a fleſh colour. The hair on the body is of a dark olive, and of a reddiſh yellow on the belly: he ſometimes walks erect, and at others upon all fours.

When erect he is about two feet, or two feet and an half high. The female is ſubject to the periodical emanation.

THE MACAQUE, AND THE EGRET.

OF all the guenons, or monkies, with long tails, the macaque *(fig. 202.)* approaches neareſt the baboon. Like them his body is ſhort and compact, his head thick, his muzzle broad, his noſe flat, his cheeks wrinkled, and he is alſo larger and taller than moſt other monkies. He is ſo extremely ugly that he might well be looked upon as a ſmaller kind of the baboon, if his tail was not long and tufted; whereas that of the baboon, in general, is extremely ſhort. This ſpecies is a native of Congo, and other ſouthern provinces of Africa. It is numerous, and ſubject to many varieties, with reſpect to its ſize, colour, and diſpoſition of the hair. The body of that deſcribed by Haſſelquiſt was more than two feet long; and thoſe we have ſeen were not above one foot and a half. That which we term the *Egret,* (*fig.* 203.) becauſe of the plume on his head, ſeems to be only a variety of the macaque, which it perfectly reſembles, excepting this and ſome other ſlight differences in the hair. Both of them are tractable and docile; but, independent of a diſagreeable ſcent which they diffuſe around them, they are ſo dirty, ſo ugly, and even ſo hideous when they grimace, that we cannot look on them without horror and diſguſt. Theſe monkies go in troops, eſpecially to plunder orchards of the fruit and figs. Boſman relates, that they take a quantity of millet in each hand, the ſame under their arms, and ſome in their mouths, which they go off with, leaping on their hind feet; if purſued they firſt drop that from under their arms, then that from their hands; and thus they are enabled to uſe more ſpeed on their four legs, preſerving that in their mouths. This traveller adds, that they examine carefully all they pull, and what does not pleaſe them they throw away, and tear up others; ſo that by this nicety they do much greater injuries than by the quantities they conſume or take away.

Diſtinctive Characters of this Species.

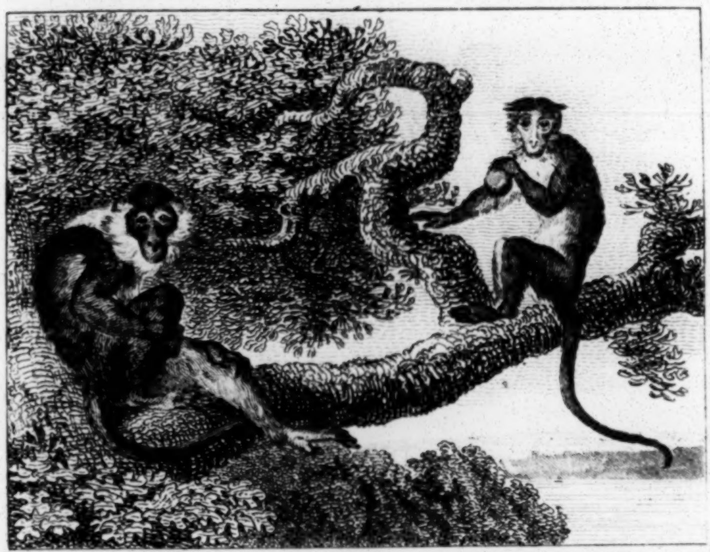
The macaque has pouches on each ſide of his cheeks, and calloſities on his poſteriors.

His tail is near as long as all the reſt of his body, being about eighteen or twenty inches in lenth. His head is large, and his muzzle thick; his viſage naked, pale, and wrinkled; his ears are covered with hair; his body ſhort and compact; and his legs ſhort and thick. The hair on the upper part of the body is of a greeniſh aſh colour, and on the breaſt and belly of a yellowiſh. He has a kind of creſt of hair on the top of his head. He walks on four and ſometimes on two feet. The length of his body, including the head, is about eighteen or twenty inches. There appears to be varieties in this ſpecies, ſome larger and others ſmaller.

The egret ſeems to be only a variety of the macaque. He is about a third ſmaller in all his dimenſions. Inſtead of a ſmall creſt of hair, which is found on the top of the head of the macaque, this animal has it ſharp and pointed. The hair on the forehead of this is black, whereas that of the macaque is greeniſh. The egret alſo has a longer tail than the macaque, in proportion to the length of its body. The females are ſubject to a periodical emanation.

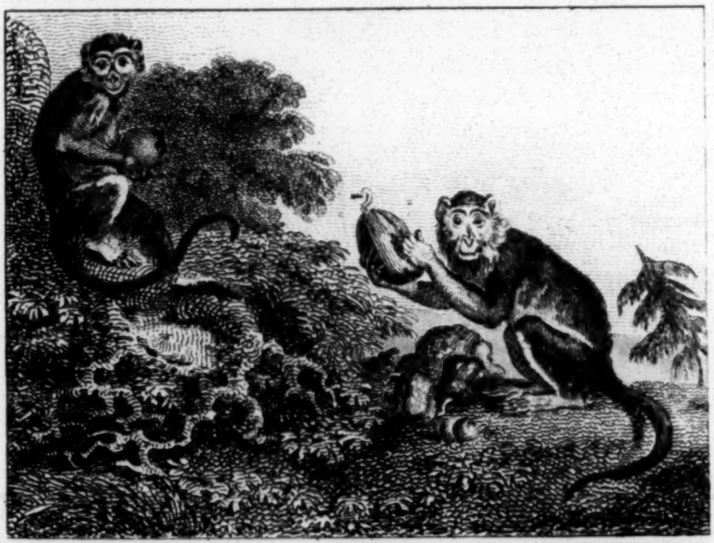
THE PATAS.

THIS animal *(fig.* 205.*)* is a native of the ſame country, and is nearly of the ſame ſize as the macaque; but the body is longer, the face not ſo ugly, and the hair much finer. He is remarkable for the colour of his hair, which is of ſo brilliant a red as to make him appear as if he were really painted. We have ſeen two of theſe animals which varied; the firſt had a line of black hairs above the eyes, extending from ear to ear. The ſecond differed from the firſt only by the colour of this line which was white. The hair about the cheeks and under the chin of both was long, which made them large beards: but the colour of the firſt was yellow, and the other white. This variety ſeemed to indicate others in the colour of the hair; and I am inclined to think, that the monkey ſpoken of by Marmol, ſaid to be of the colour of the wild cat, and to be a native of Africa, is only a variety of the Patas. Theſe monkies are not ſo ſubtle as the other kinds, but are poſſeſſed of an extreme curioſity. "I have ſeen them, ſays Bruce, deſcend from the top of very high trees, to the extremities of the branches to view the veſſels on the water; they



206 FIG. 207

Mangabey *Chinese Bonnet*



204 FIG. 205

Malbrouk *Black-Banded Patas*

they admire them for ſome time, ſeem to be diverted with what they have ſeen; and then quit their ſtations for their companions to have the ſame ſight. Some even threw branches at the Frenchmen, who returned their ſalute by the ſhots of their muſkets; ſome were killed, others wounded, and the reſt were thrown into the utmoſt conſternation. One party uttered moſt hideous cries, while another picked up ſtones to throw at their enemies, but perceiving at length how unequal the battle was, they deſiſted, and prudently retired."

It is likewiſe to be preſumed, that it is this ſpecies of monkey which Le Maire thus ſpeaks of. "It is hardly poſſible to expreſs the havock theſe animals make in Senegal, when the rice, millet, and other grains, on which they feed, are ripe. They aſſemble together in companies of forty or fifty: one of them remains as centinel on a tree, while the reſt commit their depredations. As ſoon as the centinel perceives any perſon near, he he utters a loud cry, as a ſignal to the reſt, who immediately obey and ſcamper off with their plunder, leaping from tree to tree with prodigious agility. The females, which carry their young clinging to their breaſts, retreat in the ſame manner as the reſt, and leap as if they were not incumbered with any burden."

Diſtinctive Characters of this Species.

The patas has pouches on each ſide of his cheeks, and calloſities on his poſteriors. His tail is as long as both his head and body: the crown of his head is flat. His muzzle, body, and legs, are long. He has black hair on the noſe, and a narrow line of the ſame colour over the eyes, extending the breadth of the face. The hair on the upper parts of his body is of a reddiſh colour; and that of the lower, as the throat, breaſt, and belly, of a yellowiſh hue. There is a variety in this ſpecies, with reſpect to the colour of the line over the eyes, which is black in ſome, and white in others. They do not make grimaces when they are angry, like other monkies. They walk on all fours more frequently than erect. They are from a foot and a half to two feet long, from the muzzle to the origin of the tail. The females are ſubject to a periodical emanation.

THE MALBROUCK, AND THE BONET CHINOIS.

MALBROUCK *(fig. 204.)* is the name of this animal in its native country, Bengal, and *Bonet Chinois (fig. 207.)* is a term given to the long-tailed monkey, which has a kind of trenchered cap on the crown of the head, like the Chineſe bonnets.

Theſe two monkies ſeem to belong to one ſpecies; and this ſpecies, tho' ſomewhat different from that of the macaque, is, nevertheleſs, ſo far bordering on it, as to make us doubt whether the macaque, the egret, the malbrouck, and the bonet chinois, are only four varieties, or permanent races of the ſame ſpecies. As theſe animals do not propagate in our climate, we have not been able to acquire any knowledge on the unity and diverſity of their ſpecies, and therefore are obliged to judge only by the difference of their figures, and other external attributes. The macaque and the egret, appeared to us ſo ſimilar that we preſumed them to be of one and the ſame ſpecies. It is the ſame with reſpect to the malbrouck and the bonet chinois; but, as they differ in a greater degree from the two firſt than between themſelves, we thought it beſt to ſeparate them.

With reſpect to the diverſity of thoſe two ſpecies our preſumption is founded, 1. On the difference of their external form; 2. On the colour and diſpoſition of the hair; 3. On the difference which is found in the proportion of their ſkeletons; and 4. On the two firſt-mentioned,

tioned, being natives of the ſouthern countries of Africa, and the two now treating of, being natives of Bengal. The laſt conſideration is of as great weight as any of the reſt, for we have had ſufficient proofs, that in wild animals the diſtance of climate is a ſufficient mark of the remoteneſs of the ſpecies. Beſides, the malbrouck and the bonet chinois, are not the only ſpecies, or breeds, of monkies which are found in Bengal. By the teſtimonies of travellers there ſeems to be four varieties, white, black, red, and grey; they likewiſe tell us the black kind are more eaſily tamed than any of the reſt. Thoſe we ſaw were reddiſh, and appeared very docile and familiar.

"These animals, according to travellers, plunder whole fields of the grain, and plantations of their ſugar-canes; and while one ſtands centinel on a tree the others load themſelves with the booty. If any perſon appears the centinel gives notice by crying *houp*, *houp*, *houp*, which the reſt perfectly underſtand, and all at once throw down the plunder which they hold in their left hands, and ſcamper off upon three legs; if cloſe purſued they alſo throw down what they have in their right, and ſave themſeves from their purſuers by climbing up trees, which is their general abode. They leap from tree to tree, and even the females, though loaded with their young ones, leap like the others ; but the latter ſometimes, in their haſte, miſs their aim and fall. They are very difficult to render in any degree docile, and are never ſo far tamed as to be ſuffered to go unchained. Even in their own country they will not produce unleſs at perfect freedom in the woods. When they cannot procure fruits they feed upon inſects, and ſometimes go to the ſides of the rivers, for the purpoſe of catching fiſh and crabs, the latter of which they take by watching the opening of its claws and then putting their tails between ; the crab inſtantly cloſes them, when they, with all ſpeed, drag it aſhore, and eat it at leiſure. They are fond of cocoa-nuts, and are very expert in extracting the juice for drink, and afterwards getting at the kernel, the ſhell of which is generally made uſe of as a ſnare to catch them ; a ſmall hole being made in one of them, the animal who meets with it thruſts his paw in with difficulty, when thoſe who have laid the trap run and ſeize him before he can diſengage himſelf. They ſometimes place bamboos on the tops of trees for the purpoſe of extracting the *zari*, which drops from them, and which they drink. In the provinces of India where the Bramins reſide, and whoſe religious tenets do not allow them to kill any animals, the monkies are almoſt numberleſs. They aſſemble in large troops, come into the towns, and enter the houſes with perfect freedom, and heſitate not to take ſuch proviſions, fruits, or herbs as they can meet with, and which it is very difficult to preſerve from them." There are three kinds of hoſpitals in the town of Amadabad, which is the capital of Guzerat, for animals, and where not only the lame and ſick monkies but alſo ſuch as are well, if they chuſe to live there, are plentifully ſupplied with proviſions. It is ſaid that the monkies in the neighbourhood regularly aſſemble twice a week in the ſtreets of the town, that they go to the tops of the houſes, which have a ſort of terraces, or flat roofs, where they lie in the ſun ; and that on thoſe days the inhabitants are careful to lay upon theſe terraces rice, millet, ſugar-canes, and other fruits in ſeaſon ; for if by chance they omit to do ſo theſe animals pull off the tiles from the other part of the houſe, and do great damage to the inſide. They do not eat a ſingle thing without ſmelling at it for a long time, and when they have ſatisfied their hunger they fill the pouches on the ſides of their cheeks for another time : they deſtroy the neſts of birds, and never fail to throw the eggs on the ground when they want appetite or inclination to eat them.

The moſt formidable enemy theſe animals have is the ſerpent, no other animal of the foreſt being able to ſurpriſe them, as they are ſo exceedingly ſwift and ſubtle, and eaſily climb up and ſeat themſelves on the tops of the higheſt trees. "The apes, ſays a traveller, have it in their power to be maſters of the foreſt, for neithers tigers nor lions are able to diſpute the poſſeſſion with them. The only animal they have to fear is the ſerpent, which attacks them both night and day. There are ſome ſerpents in thoſe foreſts of a prodigious ſize, which wind up the trees where the monkies reſide, and when they happen to ſurpriſe them ſleeping, ſwallow them whole before they have time to make a defence."

Diſtinctive Characters of this Species.

The malbrouck has pouches on each ſide of his cheeks, and calloſities on his poſteriors. His tail is nearly as long as both the body and head. The eyelids are of a fleſh colour, and the face a cinerous grey ; the eyes are large, the muzzle broad and turned upwards ; the ears are large, thin, and of a fleſh colour.

They have a line of grey hairs on them like the moue, but the other parts of their bodies are of an uniform colour, a yellowiſh brown on the upper and a yellowiſh grey on the lower. He goes on all fours, and is about a foot and an half long from the muzzle to the inſertion of the tail.

The bonet chinois ſeems to be a variety of the malbrouck. They differ in the hair on the crown of the head, which in the latter is diſpoſed in the ſhape of a cap or flat bonnet, and by the tail, which in that is larger. The females of both are ſubject to a periodical emanation.

THE MANGABEY.

WE have ſeen two individuals of this ſpecies, both of which were ſent to us by the denomination of *Madagaſcar apes*. They are eaſily diſtinguiſhed from all other monkies by a very apparent character. The Mangabey *(fig.* 206.*)* has its eyelids naked, and of a very ſtriking whiteneſs. Their muzzle is large, thick, and long; and they have a ring round their eyes. Theſe varied alſo in colour, the hair of one being of a blackiſh brown on the head, neck, and upper parts of the body, and white on the belly; and in the other it was much lighter over all the body, with a collar of white hair around the neck and cheeks. Both carry their tails turned backwards, the hair of which is long and buſhy. They are natives of the ſame country as the vari, and as they reſemble that animal in the length of the muzzle and tail, the manner of carrying the latter, and varieties in the colour, they ſeem to fill up the chaſm betwixt the makis and guenons, or long-tailed monkies.

Diſtinctive Characters of this Species.

The mangabey has pouches on each ſide of his cheeks, and calloſities on his poſteriors. His tail is as long as the head and body: he has a prominent ring of hair over his eyes, and the upper eyelids are particularly white. His muzzle is thick and long; his eyebrows are rough and briſtly; his ears black and almoſt naked. The hair of the upper parts of his body is brown, and thoſe below are grey. There are varieties in this ſpecies, ſome being of an uniform colour, and others having a circle of white hair round the neck and the cheeks in the form of a beard. They walk on four feet, and are nearly a foot and an half long, from the point of the muzzle to the origin of the tail. The females are ſubject to the periodical emanation.

THE MONA *.

THIS animal *(fig. 209.)* is the moſt common of the monkey tribe ; we kept one of them alive for many years, which, with the magot, ſeems to agree beſt with the temperature of our climate. This alone is ſufficient to prove the mona is not a native of the ſouthern countries of Africa and India. In fact, it is met with in Barbary, Arabia, Perſia, and other parts of Aſia which were known to the ancients, who denoted it by the name of *kebos*, *cebus*, and *cœphus*, becauſe of the variety of its colours. The viſage of this animal is of a brown hue, with a kind of white beard, mixt with yellow and a little black. The hair on the top of the head and neck is yellow and black intermixed; that on the back red and black; the belly and the inner parts of the thighs and legs whitiſh, though the external parts of the two latter are black, and the tail of a deep aſh colour, marked with two white ſpots, one on each ſide, at its inſertion. On its forehead there are ſome grey hairs in the form of a creſcent; from the eyes to the ears there is a black ſtripe, as there alſo is from the ears to the ſhoulders and arms. Some perſons have called this animal *nonne*, from a corruption of *mone* or *mona*; others have termed it the old man, from the grey colour of its beard; but the denomination by which the mona is moſt generally known is that of the *variegated monkey*; and this perfectly agrees with the name of *kebos* given it by the Greeks, and the definition of Ariſtotle, a monkey with a long tail, and of various colours.

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* Mona is the name this animal bears in the Spaniſh and Provincial languages. The Engliſh word monkey is derived from *monichi*, and both ſeem to owe their riſe to *mona* or *monima*, the primitive name of theſe animals.

In general the diſpoſition of the monkies is much more tractable than that of the baboons, and not ſo ſullen as that of the apes. They are extravagantly ſpirited, but not ferocious, for they became docile through fear the moment they find themſelves ſubjected by reſtraint. The mona is particularly ſuſceptible of education, and even attached to thoſe perſons who take care of him. That which we brought up would ſuffer himſelf to be ſtroaked and handled by thoſe he knew, but would not permit this freedom to ſtrangers, whom he would often bite. He was kept chained, appearing very deſirous of liberty; for when he either broke his chain, or got looſe, he would fly to the fields, but he would ſuffer himſelf to be retaken by his maſter. He eat every thing that was offered him, roaſted meat, bread, but his favourite food was fruits; and he would alſo ſearch after ſpiders, ants, and inſects. Whenever ſeveral pieces were given him together he put them in the pouches on each ſide of his cheeks. This practice is common to all the baboon and monkey kind, Nature having furniſhed them with thoſe reſervoirs, where they can ſtore a quantity of food ſufficient to ſupport them for one or two days.

Diſtinctive Characters of this Species.

The mona has pouches on each ſide of his jaws, and calloſities on his poſteriors. His tail is about two feet long, which is longer by ſix inches than both his body and head. The head

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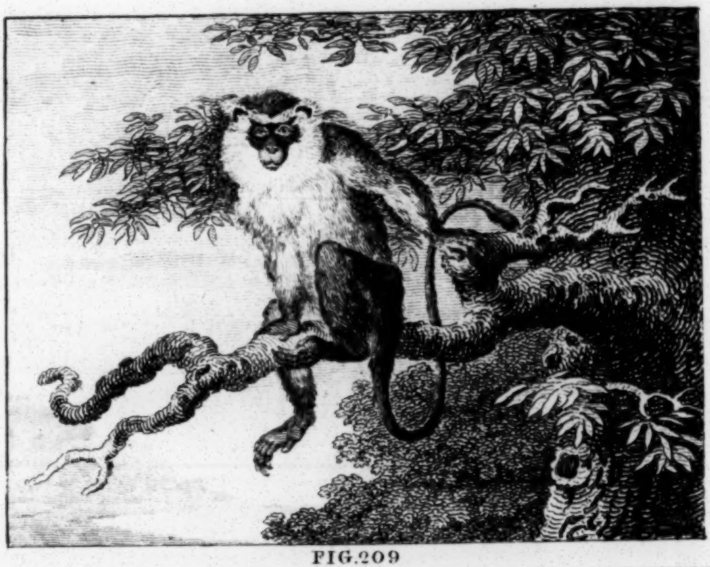
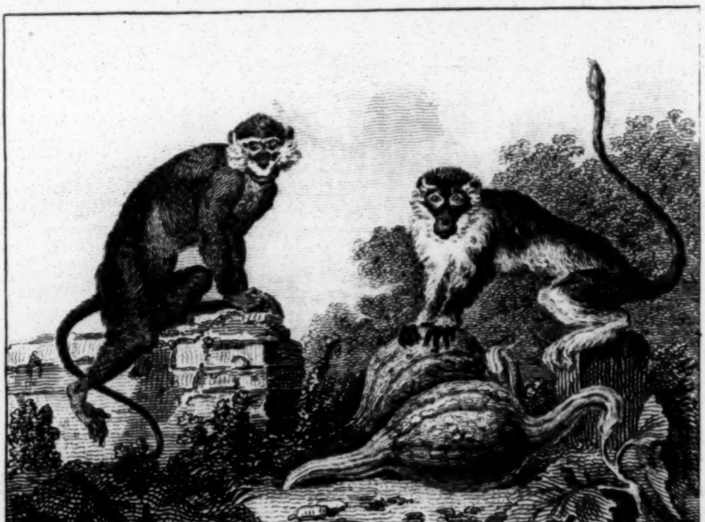


FIG.209

Mona



210 FIG. 208

Mustax *Callitrix*

head is ſmall and round, and the muzzle thick and ſhort. The colour of his face is a bright tawney ; a ſtripe of grey hairs on the forehead, another of black from the eyes to the ears, and from the ears to the ſhoulders and arms. He has a kind of grey beard formed by the hairs on his throat and breaſt, which is longer than in any other part. His hair is of a reddiſh black on the body and whitiſh under the belly. The outſide of his legs and thighs are black and his tail of a dark aſh, with two white ſpots on each ſide of its inſertion. He walks on all fours, and his length, from the ſnout to the origin of his tail, is about a foot and an half. The female is ſubject to periodical emanations.

THE CALLITRIX, OR GREEN MONKEY.

CALLITRIX is a term made uſe of by Homer, to expreſs in general the beautiful colour of the hair of animals. It was not till many ages after Homer's time, that the Greeks applied this name to ſome particular kinds of monkies, and which from the propriety of ſuch application we muſt ſuppoſe to be the animal in queſtion. *(fig.* 208.*)* The body is of a fine green colour, the neck and belly white, and the face of a beautiful black. He is found in Mauritania, and in Old Carthage; ſo there is reaſon to ſuppoſe he was known to the Greeks and Romans; and that he was one of the long-tailed monkies, to which they gave the name of Callitrix. There is a ſpecies of white monkies in the adjoining provinces of Egypt, which the ancients have alſo deſcribed by the name of *Callitrix*. Proſper Alpinus and Pietro della Valle, ſpeak of this white monkey, but we have never ſeen this ſpecies which, perhaps, is only a variety of the green monkey, or the mona, which is very common in thoſe countries.

The callitrix, or green monkey, is found in Senegal, as well as in Mauritania and the Cape de Verd iſlands. M. Adanſon relates, that the woods of Podor, along the river Niger, are filled with green monkies. "I diſcovered theſe animals, (ſays this author) only by their breaking off the branches of trees, and throwing them down; for they were ſo very quiet and nimble in their tricks, that it was ſcarcely poſſible to perceive them. I did not walk far, before I killed three of them without in the leaſt terrifying any of the reſt: however, when numbers felt themſelves wounded, they began to retreat; ſome concealing themſelves behind large branches, and others deſcending to the ground and running away; but the greateſt number leaped from the top of one tree to another. During this buſtle I kept firing at them and killed about twenty-three in leſs than an hour, without any of them uttering a ſingle cry, although they ſeveral times aſſembled together, and made an appearance of attacking me."

Diſtinctive Characters of this Species.

The callitrix has pouches on each ſide of his cheeks, and calloſities on his poſteriors. The tail is much longer than both the head and body. The head is ſmall, the muzzle long, and the face and ears are black: inſtead of eyebrows, he has a narrow ſtripe of black hairs acroſs the forehead. The body is of a fine green mixed with a little yellow. He walks on four feet; and the length of his body, including the head, is about fifteen inches. The female is ſubject to the periodical emanation.

THE MOUSTAC.

THE Mouſtac *(fig.* 210.*)* ſeems to be a native of the ſame country as the macaque, becauſe its body is, like that, ſhorter and more compact than the reſt of the monkey tribe. This is probably the ſame animal as the travellers to Guinea have called White Noſe, from its upper lips being of a white colour, and all the reſt of the face of a deep blue. It has alſo two tufts of yellow hair below its ears which gives it a very remarkable appearance, and, as it is alſo but ſmall, it ſeems to be the moſt beautiful of the monkey kind.

Diſtinctive Characters of this Species.

The mouſtac has pouches on each ſide of his cheeks, and calloſities on his poſteriors. The tail is much longer than the head and body, being ſometimes nineteen or twenty inches. His face is of a deep blue, with a large broad white mark that goes entirely acroſs the upper lip directly under the noſe, which is naked,

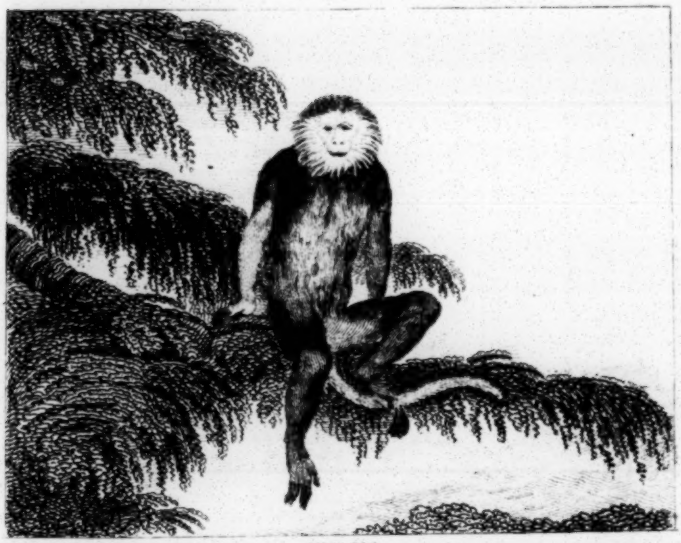
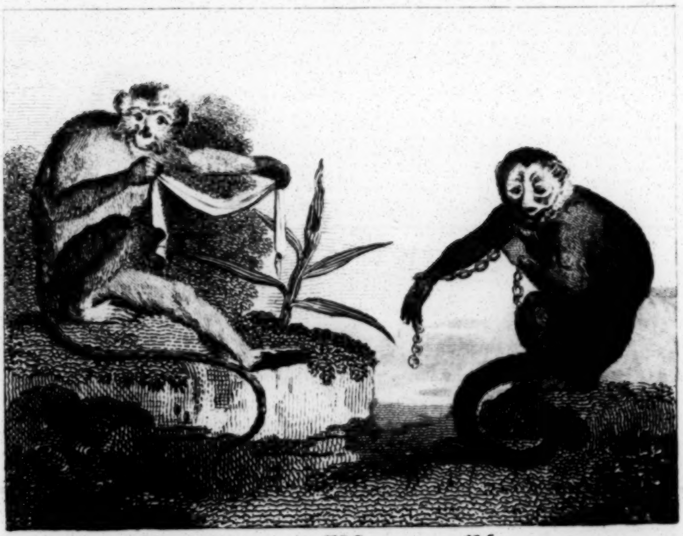


FIG.212

Doue



211 FIG 215

Tatapoin *Sai*

naked, except a ſlight edging of black hairs both on the upper and under lips. His body is ſhort and compact. There are two tufts of hair, of a bright yellow, below the ears, and another tuft of briſtly hair upon the top of the head. The hair on the body is of a greeniſh caſt, and that on the breaſt and belly of an aſh colour. He walks on all fours, and is about a foot and a half long. The female is ſubject to a periodical emanation.

THE TALAPOIN.

THIS monkey, (*fig.* 211.) though ſmall, is a beautiful animal. Its name ſeems to indicate that it is a native of Siam, and other eaſtern provinces of Aſia; but though we cannot ſpeak poſitive as to that, it is, however, certain that it belongs to the Old Continent, and is not found any where in the New, becauſe it has pouches on each ſide of its cheeks, and calloſities on its poſteriors, which characters neither belong to the ſagoins nor ſapajous, which are the only animals of the New World that can be compared to the monkies.

What inclines me to think, independent of its name, that this monkey is more common in the Eaſt-Indies than in Africa, is, the travellers affirming that moſt of the apes in this part of Aſia have their hair of a browniſh green colour. "The monkies of Guzarat, they ſay, are of a greeniſh brown, with long white beards and eyebrows. Theſe animals, which the Banans ſuffer to multiply in great numbers, from a religious principle, are ſo familiar that they enter the houſes in ſuch numbers that the fruiterers and confectioners have no little difficulty to preſerve their merchandize."

Edwards has given a figure and deſcription of a monkey by the name of the *middle-ſized black ape*, which ſeems to approach nearer the talapoin than any of the reſt. We have made a compariſon between the two, and, excepting the ſize and colour, they have ſuch a reſemblance to each other that there is at leaſt a very great approximation between them, if they are not varieties of the ſame ſpecies. In this caſe, as we are not certain that our talapoin is a native of the Eaſt-Indies, and that ſpoken of by Mr. Edwards is deſcribed by him as an animal belonging to Guinea, we ſhall refer our talapoin to the ſame climate, or at leaſt ſuppoſe that this ſpecies is common in the ſouthern parts both of Africa and Aſia. It is alſo, probably, the ſame ſpecies of black monkies mentioned by Boſman under the name of *baurd-manyetjes*, the ſkin of which, he informs us, makes a good fur.

THE DOUC.

THE Douc *(fig.* 212.*)* is the laſt among that claſs of animals we have called Apes, Baboons, and monkies. This animal, without belonging to any one of theſe three preciſely, yet partakes of them all. Of the monkies by the length of his tail; of the baboons by his ſize; and of the ape by the flatneſs of his face. By a very particular character he ſeems to form the ſhade between the monkey and the ſapajous. Theſe two tribes differ by the monkies having naked poſteriors, and all the ſapajous having them covered with hair; and the douc is the only monkey which has hair on the poſteriors like the ſapajous. He reſembles them alſo by the flatneſs of the muzzle; but he is infinitely nearer to the monkey than the ſapajous by his long tail, and by other very eſſential characters. Beſides, the interval which ſeparate theſe two families is immenſe, for the douc, and all the monkies, are natives of the Old Continent, whereas the ſapajous are only found in the New. We might alſo remark, that as the douc has a long tail like the monkies, but no calloſities on his poſteriors, he forms the link which connects the orang-outang and the monkies, as the gibbon does in another reſpect, having no tail, like the orang-outangs, but only calloſities on the poſteriors. Independent of theſe general relations, the douc has particular characters which render him very remarkable and diſtinguiſhable from the apes, baboons, monkeys, or ſapajous, at firſt ſight. His ſkin, which is variegated of different colours, ſeems to indicate the ambiguity of his nature, and diſtinguiſhes his ſpecies in a very evident manner. He has a purple collar about his neck, a white beard, his lips are brown, and he has a black ring round his eyes; his face and ears are red, the top of his head and body grey, and the breaſt and belly yellow. His legs are white downwards and black upwards,

wards. His tail is white, with a large ſpot of the ſame colour on his loins; and his feet are black, intermixed with ſhades of different colours.

This animal, which we were aſſured came from Cochinchina, ſeems to be likewiſe found at Madagaſcar, and is the ſame as that indicated by Flacourt by the name of *ſifac*, in the following terms: "There is (ſays he) another kind of white monkey at Madagaſcar, which has a brown collar, and is often ſeen erect on its hind feet: its tail is white, with two brown ſpots on the flanks: it is larger than the *vari* (maucauco), but leſs than the *varicoſſi* (vari), and this animal is called *ſifac*. It lives upon beans. There are great numbers of them towards Andrivoura, Dambourtomb, and Ranafoulchy." The brown collar, the white tail, and the ſpots on the flanks, are characters which clearly indicate that this *ſifac* of Madagaſcar is the ſame ſpecies with the douc of Cochinchina.

Travellers inform us that the large apes of the ſouthern parts of Aſia produce bezoars in their ſtomachs, which are ſuperior to thoſe of the goats and gazelles. Theſe large apes are the ouanderou and the douc; to them, therefore, we muſt refer the production of the bezoar. It is pretended that the bezoars of the ape are always round, whereas the other bezoars are of different figures.

Diſtinctive Characters of this Species.

The douc has no calloſities on his poſteriors, and is clothed all over with hair: his tail is not ſo long as his body and head: his face is covered with a reddiſh down: the ears are naked, and of the ſame colour as the face: the lips are brown, as are the orbits of the eyes. The colour of the hair is very bright and variegated: he has a collar of a purple colour round his neck: his forehead, body, arms, and legs, are white, and on the chin is a kind of yellow beard: he is black on the top of the forehead and the upper part of the arms: the parts below the body are of an aſh colour: the tail, and under part of the loins, are white: he as often walks on two feet as on four: he is three feet and an half, or four feet, high when he is upright. I do not know whether the females in this ſpecies are ſubject to the periodical emanation.

THE SAPAJOUS AND THE SAGOINS.

ALL the four-handed animals we have given a deſcription of, and which we comprehended under the generic names of Apes, Baboons, and Monkies, belong excluſively to the Old Continent; and all thoſe which remain to be ſpoken of are only to be found in the New World. We firſt diſtinguiſh them by the two generic names of Sapajous and Sagoins. Both theſe animals have their feet nearly like thoſe of the apes, baboons, and monkies; but they differ from the apes by having tails, and from the baboons and monkies by not having a pouch in each cheek, nor calloſities on their poſteriors; in ſhort, they differ from the apes, baboons, and monkies, by having a broad diviſion between their noſtrils, and the apertures being on the ſides and not under the noſe; therefore the ſapajous and ſagoins are not only ſpecifically, but even generically different from the apes, monkies, and the baboons. When compared together they are alſo found to differ by ſome generic characters, for every ſapajou has a long tail, which he can make uſe of to ſeize or lay hold of any object. This tail they bend, extend, and curl at pleaſure, and by the extremity of which they ſuſpend themſelves from the branches of trees to reach whatever they want: the under part of this tail is commonly without hair, and covered with a ſmooth ſkin. The tails of the ſagoins, on the contrary, are proportionably longer than thoſe of the ſapajous, and are weak, ſtraight, and entirely covered with hair, ſo that they cannot make uſe of them either to lay hold of any object, or for the purpoſe of ſuſpending themſelves. This difference is alone ſufficient to diſtinguiſh the ſapajou from the ſagoin.

We are acquainted with eight ſapajous, which probably ſhould be reduced to five ſpecies. The firſt is the *ouarine*, or *gouariba*, of Braſil. This ſapajou is as large as a fox, and only differs from the *alouate* by its colour. The ouarine has black hair, and the alouate red; and as they perfectly reſemble each other in every other reſpect I conſider them as belonging to the ſame ſpecies. The ſecond is the *coaita*, which is black, like the ouarine, but not ſo large: the *exquima* ſeems to be a variety of this ſpecies. The third is the *ſajou*, or *ſapajou*, properly ſo called. This is ſmall, has brown hair, and commonly known by the the name of the *capuchin monkey*. There is a variety in this ſpecies, which we ſhall call the *grey ſajou*, and which only differs from the *brown ſajou* by this difference of colour. The fourth is the *ſai*, called by ſome travellers the *howler*; he is larger than the *ſajou*, and his muzzle is broader: there are two kinds, which differ only by the colour of the hair, the one being a reddiſh brown, and the other of a lighter colour. The fifth is the *ſamiri*, commonly called the *orange monkey*. This laſt is the ſmalleſt and moſt beautiful of all the ſapajous.

We are acquainted with ſix ſpecies of ſagoins. The firſt and largeſt is the *ſaki*, whoſe tail is covered with a long hair, ſo very buſhy that it has acquired the name of the *fox-tailed monkey*. There appears to be a variety in this ſpecies, for I have ſeen two, both of which appeared to be adult, and yet one was almoſt twice as big as the other. The ſecond is the *tamarin*, which is generally black, with four yellow feet, but they vary in colour, ſome being found of an olive brown, ſpotted. The third is the *ouiſtiti*, remarkable for large tufts of hair round his face, and an annulated tail. The fourth is by ſome generic characters, for every ſapajou has a long tail, which he can make uſe of to ſeize or lay hold of any object. This tail they bend, extend, and curl at pleaſure, and by the extremity of which they ſuſpend themſelves from the branches of trees to reach whatever they want: the under part of this tail is commonly without hair, and covered with a ſmooth ſkin. The tails of the ſagoins, on the contrary, are proportionably longer than thoſe of the ſapajous, and are weak, ſtraight, and entirely covered with hair, ſo that they cannot make uſe of them either to lay hold of any object, or for the purpoſe of ſuſpending themſelves. This difference is alone ſufficient to diſtinguiſh the ſapajou from the ſagoin.

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THE OUARINE AND THE ALOUATE.

THE Ouarine and the Alouate are the largeſt four-handed animals belonging to the New Continent: they ſurpaſs the ſize of the largeſt monkey, and approach that of the baboon. They have prehenſile tails, and are, conſequently, of the ſapajous family, in which they hold a very diſtinguiſhed rank, not only with regard to ſtature, but alſo by voice, which reſounds like a drum, and may be heard at a very great diſtance. Marcgrave informs us, "that every morning and evening the ouarines aſſemble in the woods, that one among them ſeats himſelf on an elevated place, makes a ſign with his hand to the reſt to ſeat themſelves round him; that as ſoon as he ſees them all ſeated, he begins an oration with ſo quick and loud a voice as to be heard at a great diſtance, and it might be imagined they were all making a noiſe together, but during the whole time the reſt keep a profound ſilence; that when he has ended, he makes a ſignal to the others to reply, and immediately they all ſet up a cry together, till ſuch time as by another ſign with his hand, he orders them to be ſilent, and which they inſtantly obey; that when the firſt renews his diſcourſe, or ſong, which, when finiſhed, and the others have paid the utmoſt attention to, the whole aſſembly breaks up." Theſe circumſtances, which Marcgrave ſays, he has many times been an eye-witneſs of, may poſſibly be exaggerated, and ſeaſoned a little with the marvellous. The whole, probably, is only founded on the frightful noiſe theſe animals make; they have in their throats a kind of bony drum, in the cavity of which the ſound of the voice thickens, increaſes, and forms a kind of howling reverberation; upon which account, theſe ſapajous have been diſtinguiſhed from the reſt by the name of howlers. We have never ſeen the ouarine, but we have the ſkin and a dried fœtus of an alouate, in which the inſtrument of the loud noiſe he makes, that is to ſay, the bone of the throat, is very apparent. According to Marcgrave, the face of the ouarine is broad, the eyes black and ſparkling, ſhort round ears, and a tail naked at the extremity, which holds firmly whatever it encircles; the hair of the body is black, long, and gloſſy; it is much the longeſt under the chin, and forms a kind of round beard; the hair on the hands, feet, and a part of the tail is brown. The female is of the ſame colour as the male, and only differs from him by being ſmaller. The females carry their young on their backs, and thus loaded, leap from branch to branch, and from tree to tree. The young ones claſp the narroweſt part of the body of the mother with their hands and arms, and thus remain firmly faſtened while ſhe keeps in motion. Theſe animals are ſo wild and miſchievous they can neither be tamed nor ſubdued; they bite dreadfully, and although they are not among the carnivorous animals, yet they excite fear by their frightful voice, and ferocious air. As they live only on fruits, grain, and ſome inſects, their fleſh is not bad eating. " The hunters, ſays Oexmelin, bring home in the evening the monkies they have killed in the Cape Gracias-a-dio; they roaſt one part of theſe animals and boil the other; its fleſh is very good, and reſembles that of the hare, but being of a ſweetiſh flavour, a good quantity of ſalt is put to that part which is roaſted; the fat is yellow like that of a capon, and is very good. We lived on theſe animals all the time we remained there, becauſe we could procure no other food, and our hunters brought us every day as many of them as we could eat. My curioſity led me to ſee the method of hunting theſe animals, and I was ſurpriſed at their ſagacity, not only in particularly diſtinguiſhing their enemies, but alſo at the manner they defended and ſecured themſelves. When we approached towards them, they aſſembled together, ſet up loud and frighful cries, and threw branches at us which they broke from the trees; ſome voided their excrements in their hands, which they threw at our heads. I alſo remarked, that they never forſook each other; that they leaped from tree to tree with an almoſt imperceptible nimbleneſs; and that, though they took the moſt deſperate leaps, they ſeldom fell to the ground; becauſe they never miſſed catching hold of the branches either with their hands or tail, which rendered it very difficult to take them, even after they were ſhot, unleſs killed outright; for if only wounded, they remain clinging to the branch, where they often die, and do not drop off until they are putrified. I have ſeen them hang in this manner for four or five days after death, and it is not uncommon to ſhoot fifteen or ſixteen without being able to get more than two, or three. What appeared ſtill more ſingular, the moment one of them was wounded, the reſt aſſembled round, and clapped their fingers into the wound, as if they were deſirous of ſounding its depth; and if the blood flow in any quantity, ſome of them keep it ſhut up, while others get leaves, which they chew and thruſt into the orifice. I have ſeen this circumſtance ſeveral times with admiration. The females bring forth only one at a time, which they carry in the ſame manner as the Negreſſes do their children on their backs. When they ſuckle their young, they take them in their paws, and preſent the breaſt to them like a woman. There is no other way of taking the young than by ſhooting its mother, for ſhe never forſakes it, but when ſhe is killed, it tumbles to the ground, and then it is eaſily taken."

Dampier confirms moſt of theſe circumſtances; but aſſerts, that theſe animals commonly bring forth two at a time, and that the mother carries one under her arm and the other upon her back. The ſmalleſt ſpecies of ſapajous do not bring forth many, and it is very probable that the largeſt produce not more than one or two at a time.

Diſtinctive Characters of this Species.

The ouarine has the apertures of the noſtrils placed on the ſides, and not under the noſe; the partition which divides the noſtrils is very thick. He has neither pouches on the ſides of his jaws, nor calloſities on his poſteriors, thoſe parts being covered with hair like the reſt of the body. His tail is long and prehenſile. His hair is long and black, and in his throat is a thick concave bone. He is about the ſize of a greyhound. The long hair under his neck forms a kind of round beard, and he generally walks on all fours.

The alouate has the ſame characters as the ouarine, and only ſeems to differ from him by having a larger beard, and a reddiſh-coloured hair. I do not know whether the females of this ſpecies are ſubject to a periodical emanation; but from analogy, I ſhould preſume the contrary, having generally obſerved, that the apes, baboons, and monkies, with naked poſteriors, are alone ſubject to this emanation.

THE COAITA, AND THE EXQUIMA.

NEXT to the ouarine and the alouate, the coaita *(fig.* 213.*)* is the largeſt of the ſapajous. I ſaw one alive at the Duke of Bouillon's, where, by its familiarity and forward careſſes, it obtained the affection of thoſe who had it under their care; but notwithſtanding all the good treatment and attention paid to it, it could not reſiſt the cold of the winter 1764. It died regretted by its maſter, who was ſo kind as to ſend it to the Royal Cabinet. I ſaw another at the Marquis de Montmirail's, the latter was a male, and the former a female, and both were equally tractable and well tamed. This ſapajou, therefore, by its gentle and docile diſpoſition,

poſition, differs greatly from the ouarine and the alouate, which are extremely wild and untameable. It alſo differs from them in not having a bony pouch in the throat. Like the ouarine, its hair is black, but rough. The coaita alſo differs from them, in having but four fingers and no thumb to the fore paws: by this character and its prehenſile tail it is eaſily diſtinguiſhed from the monkies who have all five fingers and a flaccid tail.

The animal which Marcgrave calls *exquima*, approaches very near the *coaita*, and, perhaps, is only a variety of that ſpecies. This author ſeems to have been deceived when he ſaid that the exquima was a native of Guinea and Congo. The figure he has given of it, is alone ſufficient to demonſtrate the error; for this animal is there repreſented with a tail curled at the extremity, a character which belongs ſolely to the ſapajous; conſequently, the exquima of Marcgrave is not, as he tells us, a monkey of Guinea, but a ſapajou with a prehenſile tail, which, without doubt, had been tranſported there from Braſil. The word *exquima*, or *quima*, expunging the article *ex*, ought to be pronounced *quoima*, and then it is not very diſtant from quoaita, which many authors have written *coaita*. Every circumſtance, therefore, concurs to prove this *exquima* of Marcgrave was a ſapajou of Braſil, and only a variety of the coaita, which it reſembles in nature, ſize, colour, and the prehenſile tail. The only material difference conſiſts in the exquima having a whitiſh hair on the belly, and a white beard under the chin, about two inches long. Our coaitas have neither white hair on the belly nor a beard: but what makes me ſtill preſume, this difference is not ſufficient to conſtitute two diſtinct ſpecies is the teſtimonies of travellers, who tell us, that there are both black and white coaitas, and that ſome of them have beards, and others are without. "There are (ſays Dampier) in the iſthmus of America, great numbers of monkies, ſome of which are white, but the moſt of them black;—ſome have beards, others none: they are of a middling ſize, and in dry weather when the fruits are in ſeaſon they are very fat; their fleſh is then very good, and we ate great numbers of them, which example was after a time followed by the Indians, but who were ſhy of eating them at firſt. In the rainy ſeaſons theſe animals have a quantity of worms in their bowels, and ſome of which I have ſeen ſeveral feet long.—Theſe monkies are very droll, and played a thouſand groteſque tricks as we traverſed the woods; leaping from branch to branch with their young upon their backs, making faces, clattering, and even ſeeking opportunities to make water upon our heads. When they are unable to leap from one tree to another, on account of the diſtance, their dexterity is very ſurpriſing, they form a kind of chain, hanging down by each other's tails; one of them holding the branch above, the reſt ſwing to and fro like a pendulum, until the undermoſt is enabled to catch hold of the branches of the other tree, when the firſt lets go his hold and thus comes undermoſt in his turn; and then, by degrees, they all get upon the branches of the tree without ever coming to the ground." All theſe particulars perfectly agree with our coaitas. M. Daubenton, in his diſſection of theſe animals, found a great quantity of worms in their entrails, ſome of which were from twelve to thirteen inches long. We cannot, therefore, have any doubt but that the exquima of Marcgrave is a ſapajou of the ſame, or at leaſt a very neighbouring, ſpecies to that of the coaita.

We muſt likewiſe obſerve, that if the animal indicated by Linnæus, under the name of *diana*, is, in fact, as he ſays, the exquima of Marcgrave, he has omitted the prehenſile tail,

which

which is the moſt eſſential character, and which alone will decide whether this diana belongs to the ſapajou or monkey genus, and, of courſe, whether it is found in the Old or New Continent.

Independent of this variety, the characters of which are very apparent, there are other varieties, though leſs ſtriking, in the ſpecies of the coaita. That deſcribed by Briſſon had whitiſh hair on all the lower parts of the body, whereas thoſe we have ſeen were entirely black, and had but very little hair on thoſe parts, the ſkin being plainly ſeen, and was alſo of a black colour. One of the two coaitas, ſpoken of by Mr. Edwards, was black, and the other brown: they are termed, he ſays, the *ſpider monkies*, by reaſon of their tail and limbs being ſo very long and ſlender.

Some years ago a coaita was preſented me by the name of *chamek*, which I was informed came from the coaſt of Peru. I had it meaſured, and made a deſcription of it, in order to compare it with that M. Daubenton had given of the coaita, and immediately diſcovered that this chamek of Peru, a few varieties excepted, is the ſame animal as the coaita of Guiana.

The ſapajous are very ſagacious and dexterous: they go in companies, and mutually warn and aſſiſt each other. They make uſe of their tail as a fifth hand, and even employ that more than either their hands or feet. Nature ſeems to have, by this addition, recompenced them for the want of a thumb. It is aſſerted that they catch fiſh with this long tail, and which does not appear incredible, for we have ſeen one of our coaita's lay hold of a ſquirrel, which had been put into the ſame apartment, with his tail, and drag him out. Ruſſel, in his Hiſtory of Jamaica, ſpeaking of this animal, ſays, "this creature has no more than four fingers to each of its fore-paws; but the top of the tail is ſmooth underneath, and on this it depends for its chief actions, for the creature holds every thing by it, and flings itſelf with the greateſt eaſe from every tree and branch by its means. It is a native of the main continent, and a part of the food of the Indians." They have the addreſs to break the ſhell of the oyſters, in order to eat them; and it is certain that many of them ſuſpend themſelves to the tail of each other, either to paſs over a brook, or to ſwing from one tree to another. The females bring forth only one or two young ones at a time, which they always carry on their backs. They feed upon fiſh, worms, and inſects, but fruit is their common food, and they grow fat when it is ripe, when, it is ſaid, their fleſh is good and exquiſite eating.

Diſtinctive Characters of this Species.

The coaita has neither pouches on the ſides of his jaws, nor calloſities on the poſteriors: he has a very long prehenſile tail. The partition of the noſtrils is very thick, and the apertures are placed on the ſide, and not under the noſe. He has only four fingers on his hands or fore feet: his hair and ſkin are black: his face is naked and tawny: his ears are alſo naked, and of the ſame form as the human race. He is about a foot and a half long, and his tail is longer than the head and body together; and he walks on all fours.

The exquima is nearly of the ſame ſize as the coaita, and, like that animal, has a prehenſile tail, but his hair is not black, but variegated. There are ſome black and brown on the back and white on the belly, with a very remarkable beard. Theſe differences, however, are not ſufficient to conſtitute two different ſpecies, eſpecially as there are coaitas not entirely black, but have a whitiſh hair on the throat and belly.

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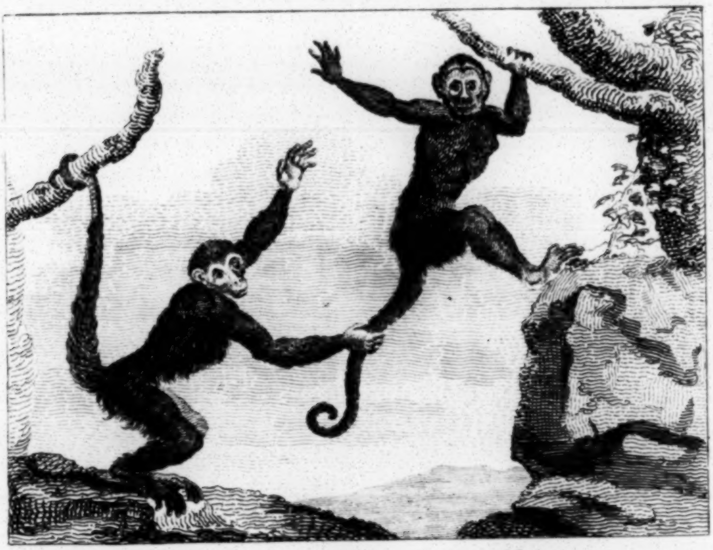

213 FIG. 214

Coati *Brown Capuchin*

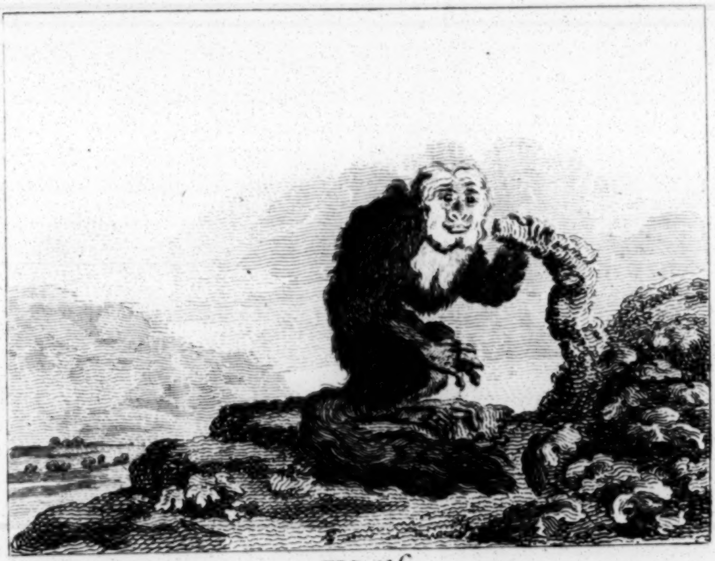

FIG. 216

Saki

THE SAJOU.

WE are acquainted with two varieties in this ſpecies, the Brown Sajou, *(fig. 214.)* commonly called the *capuchin monkey*; and the Grey Sajou, which differs from the other by the colour of its hair only. They are of the ſame ſize, the ſame ſhape, and the ſame diſpoſition: both are lively, active, and very amuſing, by their tricks and nimbleneſs. We have had them alive; and of all the ſapajous they appeared to be thoſe with which the temperature of our climate ſeemed leaſt to diſagree. They live here for many years without much trouble, provided they are kept in a warm room during winter. We can even give examples of their producing in this country. Two were brought forth at Madame de Pompadour's, at Verſailles, one at M. de Reamur's, at Paris, and another at Madame de Pourſel's, in Gatinois; but theſe were only ſingle productions, whereas in their own climate they often bring forth two. Theſe ſajous are very fantaſtical in their taſtes and affections: they are extremely fond of ſome perſons, and have as great an averſion for others.

We obſerved a ſingularity in theſe animals, which cauſes the females to be often taken for the males. The clitoris is prominent outwardly, and is as much ſeen as the ſexual organ of the male.

Diſtinctive Characters of this Species.

The ſajous have neither pouches on the ſides of their jaws, nor calloſities on their poſteriors. Their face and ears are of a fleſh colour, with a little down on them. The partition of the noſtrils is thick, and their apertures are placed pretty cloſe to each other. Their tail is prehenſile, naked underneath at the extremity, and very buſhy over every other part. Some have black and brown hair, as well about the face as on all the upper parts of the body. Others are grey about the face, and of a light brown on the body. Their hands are always black and naked. They are but a foot long from the extremity of the muzzle to the inſertion of the tail. They walk on all fours.

THE SAI.

OF the Sai *(fig. 215.)* we have ſeen two of theſe animals which ſeem to make a variety in the ſpecies. The hair of the firſt was a deep brown, and that of the ſecond, which we have called the *White-throated Sai*, has white hair on the breaſt, neck, and round the ears, and cheeks; and it differs alſo from the firſt, in its face being leſs hairy; but in other reſpects they perfectly reſemble each other; they are of the ſame diſpoſition, ſize, and ſhape. Travellers have deſcribed theſe animals by the name of weepers, from their plaintive moan. Others have called them *muſk monkies*, becauſe like the maucauco they have a muſky odour. They have likewiſe been termed macaque, borrowed from the animals ſo called in Guinea; but the macaque is a monkey with a flaccid tail; while the animals we are ſpeaking of belong to the ſapajous, their tails being prehenſile. The females have only two teats, and bring forth but one or two at a time. They are gentle, docile, and ſo timid, that their common cry, which reſembles that of a rat, becomes a kind of groaning when they are threatened with danger. Their food in this climate is principally ſnails and beetles, which they prefer before any other; but in their native country of Braſil, they chiefly live upon grain and wild fruits which they pluck from the trees, from whence they ſeldom deſcend till they have ſtripped their habitation of its treaſure.

Diſtinctive Characters of this Species.

The ſai has neither pouches on the ſides of his jaws, nor calloſities on his poſteriors. The partition of the noſtrils is very thick, and the apertures are placed on the ſide, and not beneath the noſe. The face is round and flat, and the ears almoſt naked. The tail is prehenſile and naked towards the extremity. The hair on the upper part of the body is of a deep brown, and on the lower parts, of a yellowiſh grey. Theſe animals are not above fourteen inches long, and their tails are longer than the head and body together. They walk always on four feet.

THE SAIMIRI.

THE ſaimiri is commonly known by the name of the *Aurora*, and *Orange*, or *yellow ſapajou*. It is common at Guiana, for which reaſon many travellers have ſtiled it the *Cayenne Sapajou*. From the gracefulneſs of its motions, the ſmallneſs of its ſize, the brilliant colour of its coat, fullneſs and brightneſs of its eyes, and its ſmall round viſage, the ſaimiri has ever took the lead of every other ſapajou, and it is, in fact, the moſt beautiful and pleaſing of this tribe; and it is alſo the moſt delicate and the moſt difficult to tranſport and preſerve. By theſe characters, and particularly by that of the tail, which may be ſaid to be but half prehenſile, for though it makes uſe of it to climb up trees, yet it can neither ſtrongly hold, nor firmly fix itſelf therewith, it ſeems to form the ſhade between the ſapajous and the ſagoins.

Diſtinctive Characters of this Species.

The ſaimiri has neither pouches on each ſide of the cheeks, nor calloſities on the poſteriors. The partition which divides the noſtrils is thick, and the apertures are placed on the ſide and not under the noſe. He may be ſaid to have no forehead. His hair is of a bright yellow colour; and he has two fleſh-coloured rings round the eyes. His noſe is elevated at the root, and flat towards the noſtrils. The mouth is ſmall, the face flat, naked, and the ears are garniſhed with hair and a little pointed. The tail is half-prehenſile and longer than the body. He is ſcarcely more than ten or eleven inches in length. He ſtands on his hind feet with great eaſe, but he commonly walks on all fours.

THE SAKI.

THE Saki, (*fig.* 216.) commonly called the *Fox-tailed Monkey*, from its tail being cloathed with very long hair, is the largeſt of the ſagoins, being above ſeventeen inches long when full grown, whereas the largeſt of the other five ſpecies is not above nine or ten. The ſaki has very long hair on its body, and ſtill longer on its tail: its face is red, and covered with a whitiſh down: it is eaſy to be known and diſtinguiſhed from every other ſagoin, ſapajou, or monkey, by the following characters:

Diſtinctive Characters of this Species.

The ſaki has neither pouches on the ſides of his jaws nor calloſities on his poſteriors. His tail is not prehenſile but flaccid, and half as long again as his head and body. The apertures of the noſtrils are placed on the ſide of the noſe, and the partition is very thick. The face is brown, and covered with a fine ſhort, whitiſh down. The hair on the upper parts of the body is of a deep brown, and thoſe of the lower of a reddiſh white. The hair is very long on the body, and ſtill longer on the tail, extending near two inches beyond the point; this hair on the tail is generally of a deep brown colour. There ſeems to be a variety in this ſpecies with reſpect to colour, as there are ſakis to be met with whoſe hair is of a reddiſh yellow colour. This animal goes on all fours, and is about a foot and an half long, from the tip of the noſe to the inſertion of the tail.

THE TAMARIN.

THIS is the name the animal bears in Cayenne: it is called the little black monkey by ſome, and the great-eared monkey by others. It is much ſmaller that than we have juſt deſcribed, and differs from it in many characters, particularly in the tail, which is cloathed only with ſhort hair, whereas that of the Saki is furniſhed with very long. The tamarin has alſo large ears and yellow feet. It is a pretty and lively animal, and very eaſily tamed, but ſo exceedingly delicate as to be unable long to reſiſt the intemperance of our climate.

Diſtinctive Characters of this Species.

The tamarin has neither pouches on the ſides of his jaws, nor calloſities on his poſteriors. His tail is flaccid, and as long again as his head and body. The partitions between the noſtrils are very thick, and the apertures are on the ſides, and not under the noſe. The face is of a dark fleſh colour. The ears are ſquare, large, naked, and of the ſame colour, and

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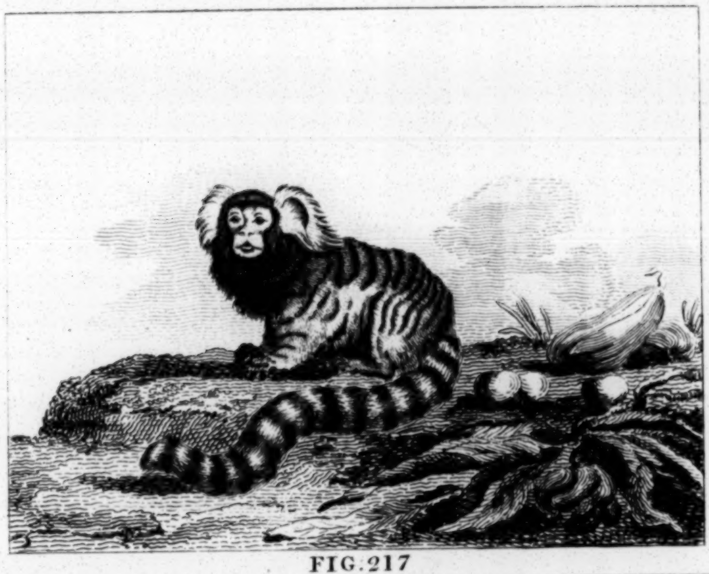
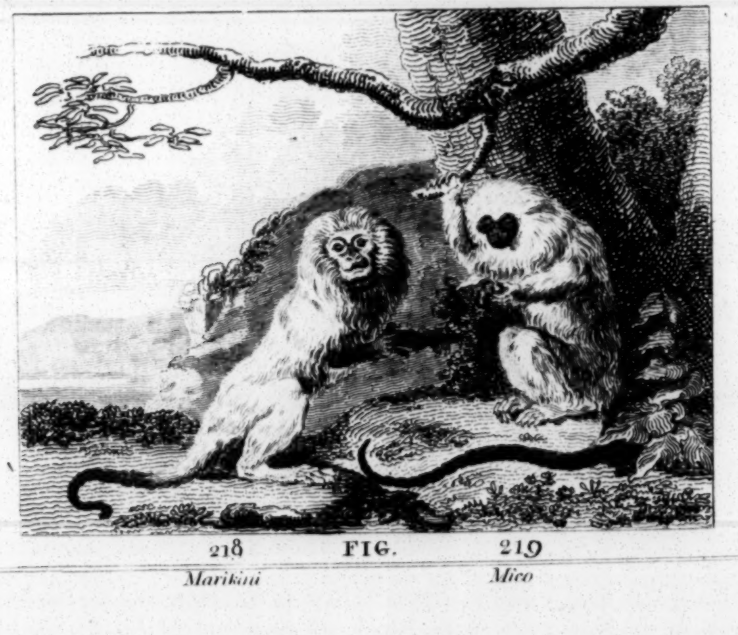


FIG. 217

Oistiki



218 FIG. 219

Marikini *Mico*

and the eyes are of a cheſnut. The upper lip is ſlit, nearly like that of the hare. The body, head, and tail, are covered with a dark brown hair, and the hands and feet with a ſhort hair of an orange colour. The body and legs are well proportioned. He walks on all fours, and meaſures not above ſeven or eight inches in length, his head included.

THE OUISTITI *.

THIS animal (*fig.* 217.) is ſmaller than the tamarin, being not above ſix inches long, including the head; his tail is more than double that length, and annulated black and white, like that of the maucauco, and at the ſame time more buſhy than that animal's. The face of the ouiſtiti is naked, and of a fleſh colour. He has two very ſingular tufts of long white hair on the fore part of the ears, which entirely conceals them when we look at the animal full in the face. Mr. Parſons has given a good deſcription of this animal in the Philoſophical

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* So called from an articulation made by this animal which has that ſound.

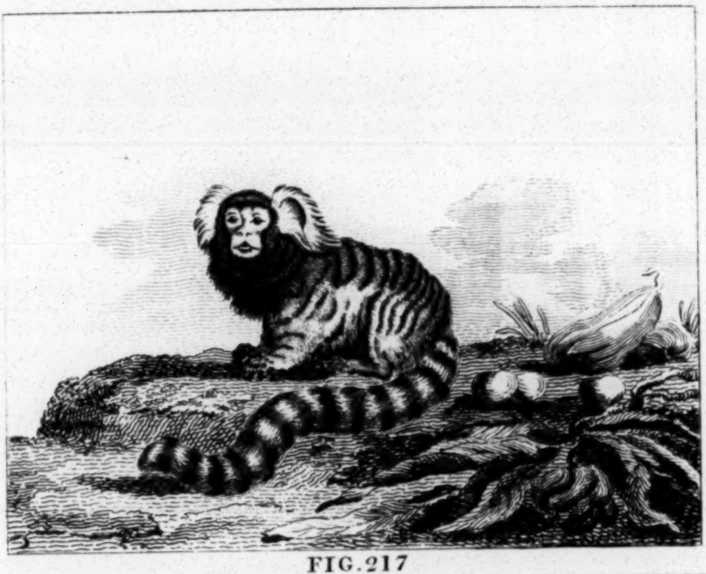
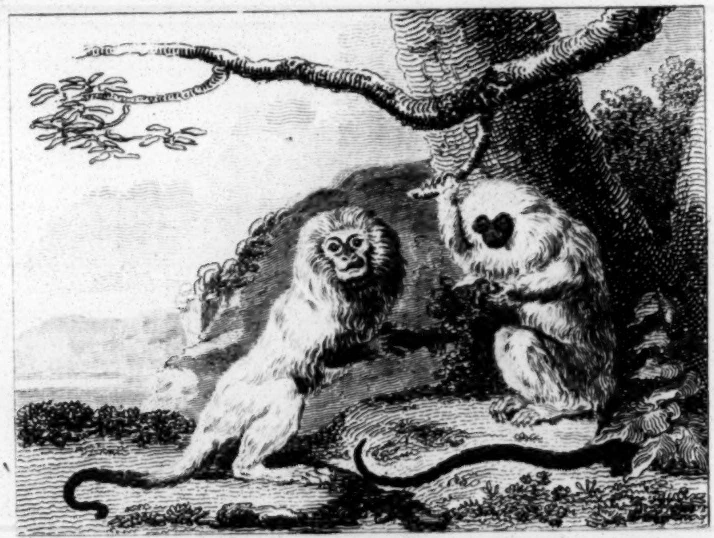


FIG. 217

Oistiki



218 FIG. 219

Marikini *Mico*

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* So called from an articulation made by this animal which has that ſound.

Diſtinctive Characters of this Species.

The ouiſtiti has neither pouches on the ſides of his jaws, nor calloſities on his poſteriors. His tail is flaccid, very buſhy, with annulated alternate bars of black and white, or rather brown and grey, and is as long again as the head and body. The partition of the noſtrils is very thick, and the apertures are placed at a ſide. The head is round, and cloathed with a black hair above the forehead, and above the noſe is a white ſpot without hair. His face is almoſt all naked, and of a deep fleſh colour. He has a tuft of long white hair on each ſide of the head before the ears. His ears are round, flat, thin, and naked. His eyes are of chefnut colour. His body is covered with a ſoft, grey, aſh-coloured hair; his throat, breaſt, and belly, of a light grey, with a ſlight tincture of yellow. He walks on all fours, and is often not above ſix inches long.

THE MARIKINA.

THE *Marikina (fig.* 218.*)* is commonly known by the name of the Little Lion Ape. We reject this compound denomination, becauſe the marikina is not an ape but a ſagoin, and no more reſembles the lion than a lark reſembles an oſtrich, there being no affinity between them, except in the long hairs that ſurrounds the face of the marikina, and a tuft of hair at the end of his tail. His hair is long, ſoft, and gloſſy. His head is round, face brown, eyes red, ears round, naked, and concealed under the long hairs which ſurround his face. Theſe hairs are of a bright red, and thoſe on the body and tail of a very pale yellow, approaching a white. This animal has the ſame manners, the ſame vivacity, and the ſame inclinations as the other ſagoins. He ſeems to be of a more robuſt temperament, for we have ſeen one which lived five or ſix years in Paris without any other particular care than keeping it during the winter in a chamber, wherein there was a fire every day.

Diſtinctive Characters of this Species.

The marikina has neither pouches on the ſides of his cheeks, nor calloſities on his poſteriors. His hair is flaccid, and nearly as long again as both his head and body. The apertures of the noſtrils are on each ſide of the noſe, and the partition which divides them very thick. His ears are round and naked. The hair is long, of a yellowiſh red colour about the face*, and bright yellow hairs, nearly of an equal length, over every other part of the body; his tail is terminated with a conſiderable tuft of hair. He walks on all fours, and is not above eight or nine inches long.

THE PINCH.

THIS animal, though very ſmall, is ſtill larger than either the ouiſtiti, or the tamarin. Including the head and body, he is about

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* The face is flat, and of a dull purple colour. *Pennant.*

about nine inches long, and his tail is full eighteen. He is remarkable for a kind of white ſmooth hair upon the top and ſides of the head, eſpecially as this colour is wonderfully contraſted with that of the face, which is black, ſhaded by a ſmall grey down. His eyes are black ; his tail is of a bright red from its inſertion to near the middle, where it changes to a deep brown, and continues ſo to the end. The hair on the upper parts of the body is of a yellowiſh brown colour ; that on the breaſt, belly, hands, and feet, is white. The ſkin is black, even where covered with white hair. His throat is naked and black like his face. This animal, though of a very ſingular figure, is nevertheleſs very handſome. His voice is ſoft, and reſembles more the chaunting of a little bird, than the cry of a quadruped. He is very delicate, and cannot be tranſported from America to Europe, without the greateſt precaution.

Diſtinctive Characters of this Species.

The pinch has neither pouches on the ſides of his cheeks, nor calloſities on his poſteriors. His tail is flaccid, and as long again as his head and body together. The partition of the noſtrils is thick, and the apertures are placed at the ſide, and not under the noſe. The face, throat, and ears are black. The hair on the head white. The muzzle broad, and the face round. The hair on the body long, and of a reddiſh colour to near the tail, where it becomes of an orange; it is white and ſhorter on the breaſt, belly, hands, and feet. The tail is of a bright red at its inſertion, darker as it proceeds towards the middle, and entirely black at its extremity. He walks on four feet, and is not above nine inches long.

THE MICO.

WE owe the knowledge of this animal *(fig.* 219.*)* to M. de la Condamine, and ſhall therefore give his account of it in his Voyage up the Amazonian River. "The monkey, of which the Governor of Para made me a preſent, was the only one of its kind that had been ſeen in the country The hair on its body was of the moſt beautiful ſilvery white colour; and that on its tail was of a gloſſy cheſnut approaching to black. Its ears, cheeks, and muzzle, were tinctured with ſo bright a vermillion, as to have the appearance of being the work of art. I kept it a year, and it was alive at the time I was writing this account, almoſt within ſight of the French coaſt; but, notwithſtanding the continual precautions that I took to preſerve it from the cold, yet the rigour of the ſeaſon killed it before my arrival. I preſerved it in aquavitæ, which will prove my deſcription is not exaggerated." By this recital of M. de la Condamine, it is obvious that his deſcription will apply to no other animal than the mico; and that it is a different, and probably, ſcarce ſpecies, ſince no author or traveller before him has made any mention of it, though remarkable for the bright red which animates its face, and for the beauty of its hair.

Diſtinctive Characters of this Species.

The mico has neither pouches on the ſide of his cheeks, nor calloſities on his poſteriors. He has a flaccid tail, which is about half as long again as the head and body. The partition of the noſtrils is not ſo thick as in other ſagoins, but their apertures are at their ſides. His face and ears are naked, and of a vermillion colour. The muzzle is ſhort, the eyes are diſtant from each other ; the ears are large ; his hair is of a beautiful ſilver white colour, and of a gloſſy brown on the tail. He walks on all fours, and is about ſeven or eight inches long.

ACCOUNT OF SOME *ANIMALS* NOT *EXPRESSLY TREATED OF IN THIS WORK.*

WE have now finiſhed, to the utmoſt of our ability, the Hiſtory of Quadrupeds, but in order to render it ſtill more complete, we ſhall not paſs over in ſilence thoſe we have not been able to obtain an exact knowledge of. They are but few, and of thoſe few, many muſt be looked upon as varieties of thoſe ſpecies we have before mentioned; yet feeling it as a duty to ſtate all we knew, or could gain a knowledge of, in the animal kingdom, that determined us to add the following, and of which we have been as particular as poſſible.

I. THE WHITE BEAR.

THIS is a noted animal in our moſt northern climates. Martin and ſome other travellers mention it, but none of them give a ſufficient deſcription of it to enable us poſitively to pronounce, whether it is a different ſpecies from the common bear. Suppoſing every thing they have written to be facts, then that is the caſe: but as we know, that the ſpecies of the wolf varies greatly according to the difference of climate; that there are brown, black, white, and others variegated, the colour becomes a void character in conſtituting different ſpecies; and, conſequently, the denomination of *white bear* is inſufficient to prove the ſpecies different. I have ſeen two ſmall bears that were brought from Ruſſia entirely white; nevertheleſs, they were moſt certainly of the ſame ſpecies as our bears of the Alps. Theſe animals alſo vary greatly with reſpect to ſize; as they live a long time, and becoming larger and fatter in thoſe parts of the world where they find ample proviſion, and are not diſturbed, the character drawn from the ſize is ſtill more equivocal; therefore, we have not a ſufficient foundation to aſſert, that the bear of the northern ſeas is a particular ſpecies, from the circumſtances only of his being white and larger than our common bear. The difference of habits does not ſeem to be more deciſive than that of colour and ſize. The bear of the northern ſeas lives upon fiſh; he never quits the ſea coaſts, and even often inhabits the floating iſlands of ice. But if we conſider that the bear in general is an animal which feeds indifferently on every thing, and that when preſſed with hunger, he has no particular choice, and that he has not the leaſt dread of water, theſe habits will not appear ſufficiently different to conclude that the ſpecies is not the ſame. The fiſh which the bears of the northern ſeas feed upon, may rather be termed fleſh, as it chiefly conſiſts of the carcaſes of whales, ſeals, &c. and that too in a climate which produces no other animals, nor even grain nor fruits; and where, conſequently, the bear is under the neceſſity of ſubſiſting on the productions of the ſea. Is it not probable, therefore, if the bears of Savoy were tranſported to the mountains of Spitzbergen, not finding any nutriment on land, they would plunge into the ſea to ſeek for ſubſiſtence?

Colour, ſize, and method of living, therefore, not being ſufficient, there remains only thoſe eſſential characters which may be derived from their figure. Now, all that travellers have ſaid of the ſea-bear is ſimply, that his head, body, and hair, are longer, than in our bears, and his head much harder. If theſe differences were real and conſiderable, they would ſuffice to conſtitute a different ſpecies: but I am doubtful whether Martin examined them with accuracy, and whether the others, who copied from him, have not exaggerated. "Theſe white bears (ſays he) are ſhaped quite otherwiſe than thoſe in our country; they have a long head, like that of a dog, and the neck alſo long; they bark almoſt like dogs that are hoarſe; they are not ſo clumſy, and more nimble than our bears; they are nearly of the ſame ſize; their hair is long, and ſofter than wool. It is ſaid, that common bears have a very tender head, but it is quite contrary with the white bear, for though we gave one ſeveral blows over the head he was not in the leaſt ſtunned, although they were ſufficient to have knocked down an ox.*" We muſt remark from this deſcription,

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* Martin's Voyage to Spitzbergen.

firſt, that the author does not ſpeak of theſe bears as being larger than ours, and that, conſequently, we ought to ſuſpect the teſtimony of thoſe who have affirmed, that the ſea-bears were thirteen feet long. Secondly, that the hair as ſoft as wool does not conſtitute a ſpecific character, ſince an animal's going frequently in the water is a ſufficient cauſe for the hair becoming ſofter, and even more buſhy, as is ſeen by the land and water beaver: thoſe that live upon land, rather than in the water, have a rougher and thinner hair; and what makes me preſume, that the other differences are not real, nor even ſo apparent as Martin ſpeaks of, Dithmar, Blefkein, in his deſcription of Iceland, ſpeaks of theſe white bears, and aſſerts having ſeen one of them killed in Greenland, which reared itſelf on its hind-feet like other bears; but in this recital, he does not ſay a word which indicates that the white Greenland bear is not entirely like ours. When theſe animals find prey upon land, they do not ſeek for food in the ſea: they devour rein-deer, and any other beaſt they can ſeize; they even attack men, and dig up dead bodies. But when almoſt famiſhed, as they often find themſelves in thoſe deſart and barren lands, they are obliged to frequent the water, in queſt of ſeals, young walruſes, and ſmall whales.

They get upon the iſlands of ice, where they wait their prey; and as long as they find abundance of ſubſiſtence, they never quit their poſt; ſo that when the ice begins to float in ſpring, thy ſuffer themſelves to be carried away with it, and as they cannot regain the land, nor even quit the ice on which they are embarked for a long time, they frequently periſh in the open ſea. Thoſe which arrive on the coaſts of Norway or Iceland with theſe floats of ice, are ſo nearly famiſhed, that they devour, with the greateſt voracity, every thing they meet; and this may have occaſioned the prejudice that theſe ſea-bears are more fierce and voracious than the common kind. Some authors have been perſuaded that the ſea-bears were amphibious, like the ſeals, and that they can remain as long as they pleaſe under water; but the contrary is evident, from the manner in which they are hunted. They can ſwim but a ſhort time together, nor go above the ſpace of a league: they are followed by a ſmall boat, and are ſoon weary. If they could diſpenſe with reſpiration they would plunge to the bottom, in order to reſt themſelves; but when they dive it is only for a ſhort time, being obliged to riſe to the ſurface of the water for fear of drowning, when the hunters kill them.

The common prey of theſe white bears are ſeals, but the walruſes, from whom they ſometimes take away their young, wound them with their tuſks, and oblige them to retreat. The whales alſo drive them from the places they frequent, by their weight and magnitude, but they ſometimes devour the young whales. All bears are naturally very fat, and the white bears, which feed only on animals loaded with greaſe, are much more ſo than the reſt. Their fat is alſo nearly like that of the whale. The fleſh of theſe bears is ſaid not to be bad eating, and their ſkin makes a very warm and durable fur.

SUPPLEMENT.

I HAVE ſince received a drawing of a White Bear*, from Mr. Colinſon, and if that be perfect the land and ſea-bears are certainly diſtinct ſpecies, the difference in the length of their heads being ſufficient to conſtitute them ſo. By this drawing it alſo appears that the feet of the ſea-bear is formed like thoſe of dogs, and other carnivorous animals, whereas thoſe of the land-bear are ſhaped like the human hand. By the aſſertions of ſeveral travellers we alſo underſtand that the former of theſe bears are much larger than the latter; Gerard de Veira ſays that the ſkin of one which he had killed meaſured twenty-three feet long, which is three times the length of a common bear. In the collection of Voyages to the North it is ſtated that theſe bears are larger and more ferocious than thoſe of our parts; but in the ſame work it is ſaid, that although they are of a different ſhape, their heads and necks are much longer, and their bodies are more ſlender, yet they are nearly of the ſame ſize with the others.

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* For which ſee vol. vi. page 270, of this Edition.

It is generally admitted by travellers that the heads of theſe ſea-bears are ſo hard that a blow which would fell an ox does not ſtun them, and that their voice is more like the barking of a dog than that of the common bear. Robert Lade ſays, that he killed two ſea-bears near the river Rupper of a prodigious ſize, which were ſo ferocious that they attacked the hunters, wounded two Engliſhmen, and killed ſeveral ſavages. It is mentioned in the third Dutch Voyage to the North, that a ſea-bear was killed by the ſailors on the coaſt of Nova Zembla, whoſe ſkin was thirteen feet long. From all which I am inclined to believe that this animal, which has been ſo frequently diſtinguiſhed for its ferocity, is a much larger ſpecies than the common bear.

2. THE TARTARIAN COW.

M. GMELIN, in the New Memoirs of the Academy at Peterſburgh, has given a deſcription of this animal, which ſeems, at firſt ſight, to be a quite different ſpecies from all thoſe we have ſpoken of under the article buffalo. " This cow (ſays he) which I ſaw alive, and had a drawing made of it in Siberia, came from Calmuck. It was about the length of two Ruſſian ells and a half; by this ſtandard we may judge of its other dimenſions, the proportion of which the deſigner has well executed. The body reſembles that of a common cow; the horns bent inward; the hair on the body and head is black, except on the forehead and ſpine of the back, where it is white. The neck is covered with a mane, and the reſt of the body with a very long hair, which deſcends to the knees, which makes the legs appear very ſhort; the back is raiſed in the form of a hunch; the tail reſembles that of a horſe, is white, and very buſhy; the fore legs are black, the hind ones white, and reſemble thoſe of the ox; there are two tufts of long hair upon the hind feet, one before and the other behind, but on the fore-feet there is but one, which is placed on the hind part. The excrements are more ſolid than thoſe of the common cow; and in diſcharging its water the animal bends its body backward. It does not low like an ox, but grunts like a hog. It is wild, and even ferocious, for excepting man, who gives it food, it ſtrikes with its head all thoſe that come near it. It diſlikes the company of domeſtic cows, and when it ſees one of them it grunts, which it ſeldom does on any other occaſion." To this deſcription M. Gmelin adds, "that it is the ſame animal ſpoken of by Rubruquis in his Travels into Tartary: that there are two ſpecies of theſe animals in that country; the firſt called *ſarluk*, which is the ſame we have deſcribed; the ſecond *chainuk*, which differs from the other by the largeneſs of the head and horns, and alſo by the tail, which reſembles that of the horſe towards its inſertion, and terminates like that of a cow ; but that they both have the ſame diſpoſitions."

There is but a ſingle character in all this deſcription which indicates that the Calmuck Cows are of a particular ſpecies, which is their grunting inſtead of lowing, for as to all the reſt they ſo ſtrongly reſemble the biſons that I do not doubt they are of the ſame ſpecies, or rather the ſame race. Beſides, though the author ſays that theſe cows do not low but grunt, yet he acknowledges they do that but very ſeldom ; and this was, perhaps, a particular affection of the individual he ſaw, for Rubruquis, and others whom he quotes, do not ſpeak of this grunting: perhaps the biſons, when they are irritated, have alſo an angry grunt ; even our bulls, eſpecially in the rutting ſeaſon, have a hollow interrupted voice, which much more reſembles grunting than lowing. I am, therefore, perſuaded that this grunting cow of M. Gmelin is no other than a biſon, and does not conſtitute a particular ſpecies.

3. THE TOLAI.

THIS animal, which is very common in Baikal Lake, in Tartary, is a little larger than the rabbits, which it reſembles in figure, colour of the hair, taſte of the fleſh, and in the habit of burrowing in the earth to conceal themſelves. Their internal ſtructure is alſo the ſame, and they differ only in the tail, which is conſiderably longer than that of the rabbit; it, therefore, ſeems very probable that it does not really conſtitute a different ſpecies, but is only a variety in that of the rabbit. Rubruquis, ſpeaking of the animals of Tartary, ſays, "There are rabbits with long tails, which have black and white hairs at the end. There are no ſtags, few hares, many gazelles, &c." This paſſage ſeems to indicate that our ſhort-tailed rabbit is not to be met with in Tartary, or rather that it has undergone ſome variations in that climate, and eſpecially in the length of the tail; for as the tolai reſembles the rabbit in every other reſpect, I do not think it neceſſary to conſider them as a diſtinct and ſeparate ſpecies.

4. THE ZISEL.

SOME authors, and among the reſt, Linnæus, have doubted, whether the *ziſel*, or *zeiſel*, *(citelus)* was a different animal from the hamſter *(cricetus)*. It is true they reſemble each other in many reſpects, and inhabit nearly the ſame country; but they differ by a ſufficient number of characters to convince us they are really different ſpecies. The ziſel is ſmaller than the hamſter; its body is long and ſlender like the weaſel; whereas that of the hamſter is thick like the rat. It has no external ears, but only auditory paſſages concealed under the hair. The hamſter has ſhort ears, but they are very broad and apparent. The ziſel is of an uniform cinerous grey colour, but the hamſter is marked with three large white ſpots on each ſide of the breaſt. Theſe differences, joined to that of their not mixing together, though natives of the ſame country, are ſufficient not to leave us the leaſt doubt of their being two different ſpecies, though they reſemble each other in the ſhortneſs of their tails and legs, in their teeth, being like thoſe of the rat, and having the ſame natural habits, ſuch as burrowing in the earth, laying up magazines of proviſions, deſtroying grain, &c. Beſides, to leave no doubt on this ſubject, we ſhall obſerve, that Agricola, and exact and judicious author, in his little Treatiſe of Subterraneous Animals, gives a deſcription of both, and ſo clearly diſtinguiſhes them, that it is impoſſible to confound them; therefore, we may certainly affirm that the hamſter and the ziſel are two different ſpecies; and, perhaps, as diſtinct from each other as the weaſel from the rat.

5. THE ZEMNI.

THERE is another animal in Poland and Ruſſia, called *ziemni*, or *zemni*, which is of the ſame genus as the *ziſel*, but larger, ſtronger, and more miſchievous. It is ſomewhat ſmaller than the domeſtic cat. Its head is large, its body ſlender, and its ears ſhort and round. It has four large inciſive teeth which project out of the mouth, the two in the lower jaw being thrice as long as the two in the upper. The feet are very ſhort, and covered with hair, divided into five toes, and armed with crooked claws. The hair is ſoft, ſhort, and of a mouſe colour. The tail moderately large. The eyes ſmall and hid, like thoſe of the mole. Rzaczinſki has called this animal the *ſmall ſubterranean dog*. This author ſeems to be the only one who has ſpoken of the zemni, though it is very common in ſome provinces of the North. Its natural diſpoſition and habits are nearly the ſame as thoſe of the hamſter and ziſel. It bites dangerouſly, eats greedily, and plunders orchards and gardens. It burrows an habitation in the earth, and lives upon grain, fruits, and pot-herbs, which it ſtores in magazines for its winter ſupport.

6. THE POUCH.

THE ſame author, Rzaczinſki, mentions another animal, called by the Ruſſians *pouch*: it is larger than the domeſtic rat; its muzzle is long, it burrows, and commits depredations in the gardens, &c. There were ſuch numbers near Suraz and Volhinia, that the inhabitants were obliged to abandon the culture of their gardens. This pouch is poſſibly the ſame which Seba calls the *Norwegian rat*, of which he gives a figure and deſcription.

7. THE PEROUASCA.

THERE is alſo in Ruſſia and Poland, eſpecially in Volhinia, an animal which the Ruſſians call *perewiazka*, and *przewiaſka* by the Polanders, a name we may tranſlate the *girdled weaſel.* This animal is not ſo big as the pole-cat, it is covered with a whitiſh hair, tranſverſally ſtriped with a yellowiſh red, which appear as ſo many girdles. It lives in the woods, and burrows in the earth, its ſkin is ſought after, and makes a very beautiful fur.

8. THE SOUSLIK.

THERE is found at Caſan, and in the provinces watered by the Wolga, a ſmall animal, called Souſlik in the Ruſſian language, which furniſhes a beautiful fur. In figure and ſhortneſs of tail, it greatly reſembles the ſhort-tailed-field-mouſe; but what diſtinguiſhes it from the mouſe or rat kind, is its coat, which is in every part ſprinkled with ſmall ſpots of a gloſſy and ſhining white; theſe ſpots are exceedingly ſmall, and placed at a little diſtance from each other; they are more apparent upon the loins of this animal, than on the ſhoulders and head. Mr. Pennant, an Engliſh gentleman, thoroughly verſed in Natural Hiſtory, favoured me with one of theſe ſousliks, which had been ſent him from Auſtria, as an animal naturaliſts were not acquainted with. I ſoon recognized it to be the ſame as that of which I had a ſkin in my poſſeſſion, and of which M. Sanchez had furniſhed me with the following account. "The rats called *ſouſliks*, are taken in great numbers in the ſalt veſſels in the river *Kama*, which deſcends from Solikamſki, where the ſalt pits are, and falls into the Wolga above the town of Caſan. The Wolga from Simbuſki to Somtot, is covered with theſe ſalt veſſels, in which theſe animals are taken, as well as in the lands which border on thoſe rivers. They have been named ſouſlik, that is, dainty-mouthed, becauſe they are very fond of ſalt."

SUPPLEMENT.

WE have ſince learnt, that theſe animals generally live in the deſart, and burrow into the ſides of the mountains where the earth is blackiſh; that ſome of them make their holes ſeven or eight feet long, at the end of which they form different apartments for ſtoring up proviſions for the winter, which conſiſts of ears of corn, peaſe, lint, and hemp ſeeds: or if not near cultivated lands, different kinds of herbs, all which they keep ſeparate in different parts of their holes, to which they have from two to five entrances, always winding, and the mouths of them ſometimes ſeven feet aſunder; they alſo dig holes for their habitations ſeparate from their magazines. Beſides grain and herbs they feed upon young mice, but are unable to encounter the full-grown ones. The females have from two to five young ones at a time, which are firſt blind, and without hair; nor do they begin to ſee till after the hair appears.

9. THE GOLDEN COLOURED MOLE.

IN Siberia there is a mole, called the *golden coloured mole*, and whoſe ſpecies may probably be different from the ordinary mole, becauſe the Siberian has no tail, and a very ſhort muzzle; the hair mixed with green, and of a gold ſhade; only three toes on the fore-feet, and four on thoſe behind: whereas the common mole has five toes on every foot. We are ignorant of the proper name of this animal of which Seba has given a figure.

10. THE WHITE WATER RAT.

THE European Water Rat is found in Canada, but its colour is different; its back is brown, the reſt of the body white, and in ſome few places yellow. The head, muzzle, and extremity of the tail, are white. The hair ſeems ſofter and more gloſſy than that of our water-rat; but they are perfectly alike in every other reſpect, and no doubt are of the ſame ſpecies. The whiteneſs of the hair being produced by the coldneſs of the climate: and, it is to be preſumed, that in the northern parts of Europe, there are white water-rats as well as in Canada.

II. THE GUINEA HOG.

THOUGH this animal differs from the common hog in ſome characters, nevertheleſs I preſume it to be of the ſame ſpecies, and that theſe differences are only varieties produced by the influence of the climate. Of this we have an example in the Siam hog, which alſo differs from that of Europe, although it is certainly of the ſame ſpecies, ſince they intermix and produce together. The Guinea hog is nearly of the ſame figure as ours, and about the ſame ſize as the Siam hog, that is, ſmaller than the wild boar, or our domeſtic hog, It is a native of Guinea, and has been tranſported into Braſil, where it has multiplied as in its own native country. It is domeſtic and quite tame. Its hair is ſhort, red, and gloſſy: it has no briſtles, not even on the back; the neck and crupper near the tail, are covered with longer hair than the reſt of the body. Its head is not ſo big as that of our hog, from which it alſo differs in the ſhape of its ears, which are very long, pointed, and turn backwards upon the neck. Its tail is as much longer, almoſt touching the ground, and which has no hair. This race of hogs, which, according to Marcgrave, originally belonged to Guinea, is alſo met with in Aſia, and particularly in the iſland of Java, from whence they have been tranſported to the Cape of Good Hope by the Dutch.

12. THE WILD BOAR OF CAPE VERD.

THERE is another hog, or wild boar, at Cape Verd, which, by the number of his teeth, and enormous ſize of the tuſks in the upper jaw, ſeems to be of a different race, if not of a different ſpecies from every other hog, and approaches nearer the babirouſſa. Theſe tuſks more reſemble ivory horns than teeth; they are half a foot long, and five inches round at the baſe, and bended nearly like the horns of a bull. This character alone would be inſufficient to conſtitute a particular ſpecies; but what ſupports this preſumption, he differs from every other hog in the length of the aperture of his noſtrils, the largeneſs and form of his jaws, and in the number and form of his grinders; nevertheleſs we have ſeen the tuſks of a wild boar, taken in the foreſts of Burgundy, which ſomewhat approached thoſe of the wild boar of Cape Verd. Theſe tuſks were about three inches and an half long, and four inches in circumference at the baſe; they were turned alſo like the horns of a bull, that is, they had a double curvature, whereas the common tuſks have only a ſingle one. They likewiſe ſeemed to be as ſolid as ivory; and it is certain that this wild boar muſt have had the jaws larger than the common kind. Therefore we may preſume that this wild boar of Cape Verd is a ſingle variety, a particular race in the wild boar ſpecies.

SUPPLEMENT.

WE have received an engraving of this animal from the celebrated M. Allamand, profeſſor of Natural Hiſtory at Leyden, and who has alſo written to M. Daubenton in the following terms:—" I conceive, Sir, the animal repreſented in the plate I ſent you, is the ſame as that which you have treated of under the name of the Wild Boar of Cape Verd. The one from whence it was taken is now living (May 5, 1767) in the menagery of the Prince of Orange. I frequently viſit him, and always receive pleaſure from admiring the ſingular form of his head. This was tranſmitted by the Governor of the Cape of Good Hope, to whom I have written, requeſting him to ſend me another, but of which I have little hopes, ſince even at the Cape it was regarded as a monſter ; yet ſhould I ſucceed I will ſend it to France, that you and M. de Buffon may have an opportunity of examining it. We put a common ſow to the one we have, for the purpaſe of trying whether they would copulate, but the inſtant ſhe came near him he darted at her and tore her to pieces." In another letter M. Allamand remarks, that the moſt material difference between this and the common boar is in their heads, and in this boar's having two very ſingular protuberances in the form of ears at the ſide of each eye. The averſion ſhewn by this animal to the ſow, as well as the differences, both external and internal, in the forms of their heads, tend to prove it a diſtinct ſpecies from our hog, yet as it approaches nearer to that than any other animal, and is not only found near Cape Verd but alſo in the neighbourhood of the Cape of Good Hope, we ſhall call it the African boar.

Voſmaër calls it the wild African boar, and very juſtly diſtinguiſhes it from the Guinea hog, the American pecari, and from the Indian babirouſſa. This author, in his account, remarks, " M. de Buffon, ſpeaking of the wild boar of Cape Verd preſerved in the royal cabinet, ſays that it had cutting teeth; but no ſuch teeth appear in the one I have. The animal came to me in a cage, but being informed he was not miſchievous I opened the door, and he came out without ſhewing the leaſt ſign of rage; he buſtled about in ſearch of food, and greedily devoured whatever was given him. I left him alone for a few moments, and on my return found him buſily employed digging up the floor, in which, although paved with ſmall bricks, cloſely cemented, he had made a very large hole, and it was not without the aſſiſtance of ſeveral men that I could make him give over and return to his cage, for he made much reſiſtance, and expreſſed his reſentment by ſharp and mournful cries. He appears to have been taken in the woods of Africa when he was very young, for he has grown conſiderably ſince he was brought here; he is ſtill alive, and was not much affected laſt winter, notwithſtanding the froſt was very ſevere. He is far more agile than our hogs. He allows himſelf to be ſtroaked, and appears fond of rough friction. When made angry he retires backwards, always facing his aſſailant, and ſhakes his head very forcibly. After having been confined for any length of time, on being let looſe he is very ſportive, leaps and purſues the deer, or other animals, and then carries his tail erect, which at other times is pendulous. He has a very ſtrong odour, which is by no means diſagreeable, but I do not know any other ſmell with which it can be compared. He eats all ſorts of grain; in bringing him over they feed him with maize, and as much freſh herbage as they could procure; but when he had taſted our barley and wheat he preferred them to other food, excepting roots dug out of the earth. He is ſo fond of rye-bread that he follows any perſon who holds him a piece of it. He ſinks upon the knees of his fore-legs when he eats or drinks, and in which poſition he often reſts. He hears and ſmells very acutely, but from the ſmallneſs and ſituation of his eyes his ſight is very limited; they are placed very high, and near each other, and have two large excreſcences underneath them, ſo that he cannot perceive the objects around him.

His figure is very like that of the common hog, but he appears to be leſs, from his back being more flat and his legs ſhorter; compared with them alſo he appears very deformed. His muzzle is large, flat, and hard; the noſe is moveable, bent towards the baſe, and terminates obliquely; the noſtrils are large, and diſtant from each other; the upper lip is hard and thick, very prominent round the tuſks, and hangs pendulous over the corners of the muzzle. He has no front teeth, but the gums are ſmooth and hard. The tuſks of the upper jaw are crooked, five inches and an half in length, pointed at the ends, and an inch thick at the baſe; thoſe of the under jaw are much ſmaller, and from a conſtant friction againſt the upper appear to be cut obliquely. He would not permit us to examine his grinders. His eyes are ſmall, the iris of a deep brown, and the cornea white; the upper eyelids have a brown, ſtiff, cloſe cilia, longeſt in the middle, but there are no cilia on the under. The ears are pretty large, rather round, covered on the inſide with yellow hair, and bent backwards. Beſides the protuberances under the eyes there are two more, one on each ſide of the head. The ſkin appears to be thick ; and there are ſeveral tufts of hair diſperſed over the body. The forehead is covered with brown and white hairs ; from thence is a narrower band of dark grey down to the beginning of the muzzle, where it divides and extends on each ſide of the head ; the briſtles are the longeſt and cloſeſt on the neck and anterior part of the back, they are of a browniſh grey, and ſome of them ſeven or eight inches long; they are not thicker than thoſe of the common hog, and ſplit in the ſame manner; they have ſo few on the other part of the back that it has the appearance of being naked ; there are ſmall white briſtles on the flanks, breaſt, belly, and ſides of the head and neck. Their feet are divided into two black pointed hoofs ; the tail is naked, and hangs perpendicularly. The head is of a blackiſh colour, and the back and belly of a reddiſh grey. The width and flatneſs of the noſe, together with the length of the ſnout, the protuberances under the eyes, and the long tuſks, give this animal a dreadful aſpect. He is about four Rheniſh feet in length."

Notwithſtanding all theſe differences which M. Voſmaër has deſcribed, and the averſion which M. Allemand ſtates it to have ſhewn to the common ſow, I ſtill have my doubts whether it is any thing more than a variety of the European hog; for we know that this ſpecies varies greatly in Aſia, Siam, and China; and theſe doubts ſeem to be ſomewhat ſupported, by having found, about thirty years ſince, an enormous head of a wild boar that had been killed in our own woods, the tuſks of which were nearly as large as thoſe of the Cape boar. To this may be added the information I received from M. Comerſon, who ſays there are wild boars in Madagaſcar, whoſe heads are like the common kind from the ears to the eyes, but that under the eyes they have a protuberance, which decreaſing gradually to the end of the ſnout gives the animal the appearance of having two heads, the one being, as it were, partly ſunk in the other; and this information alſo made me conclude that the animal I have mentioned under the appellation of the Wild Boar of Cape Verd is the ſame as is found in Madagaſcar.

13. THE MEXICAN WOLF.

AS the wolf is a native of cold climates, he muſt have paſſed northerly into America, ſince he is met with in both continents. We have ſpoken of the black and grey wolf of North America. It appears that this ſpecies is diſperſed as far as New Spain and Mexico ; and that in this warm climate it has undergone many varieties, without having changed either its diſpoſition or nature, for the Mexican wolf has the ſame figure, appetites, and habitudes, as the European or North American wolf; and they all ſeem to be of the ſame ſpecies. The wolf of Mexico, or rather of New Spain, where he is much oftener found than in Mexico, has five toes on his fore-feet, and four on thoſe behind. The ears are long and ſtrait, and the eyes ſparkling, like our wolves ; but the head is larger, the neck thicker, and the tail not ſo buſhy. Above the mouth there are ſome thick briſtles, as large, but not ſo ſtiff as thoſe of the hedge-hog. The body is covered with greyiſh hair, marked with ſome yellow ſpots. The head is of the ſame colour as the body, croſſed with brown ſtripes, and the forehead adorned with ſallow-coloured ſpots. The ears are of grey, like the head and body. There is a long yellow ſpot on the neck, a ſecond on the breaſt, and a third on the belly. The flank is marked with tranſverſe bands from the back to the belly. The tail is grey, with a yellow ſpot on the middle. The legs are ſtriped from top to bottom with grey and brown. This wolf is the moſt beautiful of the kind, and its fur ought to be valued for its variety of colours. But in other reſpects there is not the leaſt indication of its being a different ſpecies from the common wolves, which vary in colour from grey to white, and from white to black, without changing the ſpecies; and we ſee, by the teſtimony of Fernandes, that theſe wolves of New Spain vary like the European wolf, ſince even in that country they are not all marked agreeable to the above deſcription, ſome being found of an uniform colour, and even all white.

14. THE ALCO.

WE have already obſerved that there were in Peru and Mexico, before the arrival of the Europeans, domeſtic animals called *alco*, which were of the ſame ſize, and nearly of the ſame diſpoſition, as our ſmall dogs; and which the Spaniards have called *Mexican* or *Peruvian dogs*, from their having the ſame attachment and fidelity to their maſters. In fact, the ſpecies of theſe animals does not ſeem to be eſſentially different from that of the dog, and beſides, the term alco may probably be a generic and not a ſpecific term. Recchi has left us the figure of one of theſe alcos, which is called *ytzcuinte porzotli* in the Mexican tongue; it was prodigiouſly fat, and probably degenerated by its domeſtic ſtate and too great an abundance of food. The head is repreſented ſo ſmall that it has not any proportion with the ſize of the body; its ears are hanging, which is another mark of domeſticity. The muzzle reſembles that of a dog; the fore-part of the head is white, and the ears are partly yellow. The neck is ſo ſhort as to leave no interval between the head and ſhoulders. The back is curved and covered with yellow hair. The tail is white, ſhort, and pendulous, but does not deſcend lower than the thighs. The belly is large, tenſe, and marked with black ſpots; it has ſix very apparent teats. The legs and feet are white, and the toes, like thoſe of a dog, are armed with long and pointed claws. Fabri, who has given this deſcription, concludes, after a very long diſſertation, that this animal is the ſame as that called alco, and I think his aſſertion well founded; but we muſt not look upon it as excluſive, for there is ſtill another race of dogs in America to which it equally as well applies. " Beſides the dogs, ſays Fernandes, which tbe Spaniards have tranſported into America, we met with three other ſpecies, which reſemble ours both in their natures and manners, and which do not eſſentially differ in figure. The firſt and the largeſt of theſe American dogs is called *xoloiztcuintli*. This is frequently three cubits long, and what is particularly remarkable, he is entirely without hair, and only covered with a ſoft, cloſe ſkin, marked with yellow and blue ſpots. The ſecond is cloathed with hair, and in ſize reſembles our little Malteſe dogs. He is marked with white, black, and yellow. His deformity is ſingular, but not diſagreeable. His back is arched, and his neck ſo exceeding ſhort, that the head ſeems to ſhoot immediately out of the ſhoulders; in his own country he is called *miehuacanens*. The third, which alſo reſembles our little dogs, is called *techichi*, but his look is dull and ſavage. The Americans eat his fleſh.

From comparing the teſtimonies of Fabri and Fernandes, it is clear that the ſecond dog that the laſt author calls *michuacanens*, is the ſame as the *ytzcuinte portzotli*, and that this ſpecies of animal exiſted in America before the arrival of the Europeans; and it muſt have been the ſame with the *techichi*. I am therefore perſuaded that this word *alco* was a generic name, which equally applied to both, and perhaps to more races or varieties which ſtill remain to us unknown. But with reſpect to the firſt, Fernandes ſeems to be deceived both with regard to the name and ſubject. No author has ſpoken of any naked dogs in New Spain. This race, commonly called *Turkiſh dogs*, come from the Indies, and other warm climates of the Old Continent; and it is probable, that thoſe which Fernandes ſaw in America, were tranſported thither, eſpecially as he expreſsly mentions that he had ſeen this ſpecies in Spain, before his departure for America. What farther proves it to be ſo, this animal had no American name, and Fernandes, in order to give it one, borrowed that of *xolaitzcuintli*, which is the name of the Mexican wolf. Thus of three ſpecies, or varieties of American dogs, there only remain two, which are indiſcriminately called by the name of *alco*; for independent of the fat alco, which ſerved as a lap-dog to the Peruvian ladies, there was a lean and melancholy alco, uſed for the purpoſe of hunting, and it is not impoſſible that theſe animals, though very different to all appearance from that of our dogs, nevertheleſs ſpring from the ſame ſtock. The Lapland, Siberian, and Iceland dogs, may, like the wolves and foxes, have paſſed from one continent to the other, and afterwards degenerated by the influence of climate and a domeſtic ſtate. The firſt alco, with a ſhort neck, approaches the Iceland dog; and the techichi of New Spain, is probably the ſame animal as the kouparas, or crab dog of Guinea, which reſembles the fox in its ſhape, and in its hair the jackal. He is denominated the crab-dog becauſe he principally feeds upon crabs and other cruſtaceous animals. I have only ſeen a ſkin of one of theſe Guiana animals, and I am unable to decide whether it is a particular ſpecies, or whether it is related to thoſe of the dog, fox, or jackal.

15. THE TAYRA; OR, GALERA.

THIS animal, of which Mr. Brown has given a figure and deſcription, is about the ſize of a ſmall rabbit, and greatly reſembles the weaſel or martin. He burrows in the earth, and his fore-feet are very ſtrong, but conſiderably ſhorter than thoſe behind. His muzzle is long, a little pointed, and adorned with whiſkers. The under jaw is much ſhorter than the upper. He has ſix inciſive and two canine teeth in each jaw, without reckoning the grinders. His tongue is rough, like that of the cat. His head is oblong, as are alſo the eyes, which are at an equal diſtance from the ears and the extremity of the muzzle. His ears are flat and reſemble thoſe of a man. His feet are ſtrong and pliable; the metatarſus is elongated, and he has five toes on each foot. His tail is long and decreaſes gradually to a point. His body is oblong and greatly reſembles that of a rat. He is covered with brown hairs, ſome of which are pretty long, and others much ſhorter. This animal appears to be a ſmall ſpecies of martin or pole-cat. Linnæus ſuppoſed, that the black weaſel of Brazil, might be the galera of Mr. Brown, and in fact, the two deſcriptions ſufficiently agree to give us reaſon to premiſe it. This black weaſel of Brazil is alſo found in Guiana, where it is called tayra, and it is ſuppoſed that the word galera is a corruption derived from tayra, the true name of this animal.

16. THE PHILANDER OF SURINAM.

THIS animal belongs to the ſame climate, and is of a near ſpecies to the other opoſſums. Sibillas Merian, a German paintreſs, is the firſt who gave a figure and deſcription of it. Seba conſidered that of Merian's to be the female, and gave another figure for that of the male, with a kind of deſcription; this animal, he ſays, has very ſparkling eyes, ſurrounded

rounded with a circle of brown hair. The body is covered with a ſoft hair, or rather a kind of wool of a reddiſh yellow colour, which is moſt red on the back, and of a yellowiſh white on the ſnout, forehead, belly, and feet: the ears are naked and pretty hard. There are long hairs in form of whiſkers on the upper jaw and above the eyes; its teeth are pointed and very ſharp. Upon the tail of the male, which is naked, and of a pale red, there are dark red ſpots, which are not ſeen on the tail of the female. The feet reſemble the hands of the ape; the fore-feet having four fingers and a thumb with ſhort and obtuſe nails, whereas only the thumb, or great toe, of the hind-feet is flat and obtuſe, the reſt being armed with ſmall ſharp claws. The young of theſe animals grunt ſomewhat like pigs. The teats of the female reſemble thoſe of the murine opoſſum. Seba juſtly obſerves, that in the figure given by Merian, the feet and toes are badly repreſented. The females produce five or ſix at a time. The tail is very long and prehenſile, like that of the ſapajous. The young ones get on the back of their mother, and fix themſelves ſecurely by twiſting their tail round her's. In this ſituation they carry them with much ſwiftneſs and ſafety.

17. THE AKOUCHI.

THE Akouchi is common in Guiana, and other parts of South America. It differs from the agouti by having a tail, which that has not. The akouchi is generally ſmaller than the agouti, and its hair is not red, but of an olive colour. Theſe are the only differences we are acquainted with between theſe two animals, which, however, ſeem ſufficient to conſtitute two diſtinct and ſeparate ſpecies.

SUPPLEMENT.

BESIDES our former remark of the akouchi being a different ſpecies from the agouti by having a tail, the difference in ſize may alſo be added in ſupport thereof, as the former does not exceed the ſize of a young rabbit. The akouchi confines itſelf ſolely to large foreſts; he feeds upon fruits, and has the ſame natural habits as the agouti. He is called by the name of agouti in the iſlands of Grenada and St. Lucia. His fleſh is very white, of a good flavour, and he is reckoned among the choiceſt game of South America; when purſued they will ſuffer the dogs to take them rather than attempt their eſcape by taking to the water. According to M. de la Borde they have but one or two young at a time, but I doubt that being the fact. Theſe animals are very eaſily tamed, and ſometimes, though very ſeldom, make a cry ſomewhat like the Guinea pig.

I have been aſſured by Meſſ. Aublet and Olivier, that in Cayenne the hare is called agouti, and the rabbit akouchi, and that the former is the beſt food; and they farther add, that the fleſh of the armadillos, except the nine-banded, is ſtill better; that the paca is eſteemed the beſt game next to the armadillo, and after them are ranked the agouti and akouchi; and theſe gentlemen alſo aſſert that the inhabitants of this country eat the red cougar, and that its fleſh nearly reſembles veal.

18. THE TUCAN.

FERNANDES gives the name of Tucan to an animal of New Spain, whoſe natural habits approach nearer to that of the mole than to any other animal. This appears to be the ſame animal as that deſcribed by Seba, by the name of the American red mole; at leaſt, the deſcriptions given by theſe two authors, agree ſufficiently to admit ſuch a preſumption. The tucan, perhaps, is a little larger than our mole; like that it is flat and fleſhy, and has ſuch ſhort legs, that its belly touches the ground. The tail is ſhort, its ears ſmall and round; and its eyes ſo very ſmall, that they cannot be of much uſe to the animal. But it differs from the mole in the colour of its hair, which is of a reddiſh yellow; and by the number of toes, having only three to the fore-feet, and four to theſe behind, whereas the mole has five toes on each foot. It ſeems ſtill farther to differ from the mole by its fleſh being good to eat; and in not having the ſame inſtinct of recovering its retreat when it is once come out, but each time is obliged to burrow a freſh hole: ſo that in certain ſoils, which agree with theſe animals, the holes made by them are ſo very numerous, and ſo near each other, that great precaution is neceſſary to walk in ſafety.

19. THE FIELD-MOUSE OF BRASIL.

WE call this animal by this name becauſe we are ignorant of the real one it bears in its native land, and becauſe it reſembles more the field-mouſe than any other animal. It is, however, conſiderably larger, being about five inches long, from the extremity of the muzzle to the inſertion of the tail, which is only two inches, and, conſequently, much ſhorter in proportion than that of the common field-mouſe. Its muzzle is pointed, and its teeth very ſharp. There are three very broad black ſtripes on a ground of brown hair, which extends longitudinally from the head to the tail, below which the ſcrotum appears hanging between the hind legs. This animal, ſays Marcgrave, plays with the cats, who never appear inclined to eat them; and it is alſo obſervable, that although the cats kill the European field-mice they do not eat them.

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20. THE APEREA.

THIS animal, which is found in Braſil, is neither a rabbit nor rat, yet ſeems to partake of both. It is about a foot long by ſeven inches in circumference. It is of the ſame colour as our hares, but white upon the belly. It has alſo, like that animal, a ſlit lip, large inciſive teeth, and whiſkers about the mouth and ſides of the eyes; but its ears are rounded like thoſe of a rat, and very ſhort: the fore-legs are not more than three inches high, thoſe behind are a little longer. The fore-feet have four toes covered with a black ſkin, and furniſhed with ſmall ſhort claws: the hind feet have only three toes, the middlemoſt of which is longer than the other two. The aperea has no tail; its head is a little longer than that of the hare, and its fleſh is like that of a rabbit, which it reſembles in its manner of living. It conceals itſelf in holes, yet does not burrow like the rabbit, but retires into the cavities of rocks, where it is very eaſily taken. The animal ſpoken of by Oviedo, and after him Charlevoix and Montfraſier, by the name of *cori*, appears to be the ſame as the apereas. In ſome parts of the Weſt-Indies theſe animals may be reared in houſes or warrens, as we do rabbits, and which may be the reaſon why ſome are red, white, black, and others of different colours. This conjecture is not without foundation, for Garcilaſſo expreſsly ſays, that there are rabbits at Peru which have no reſemblance to thoſe of Spain.

21. THE TAPETI.

THE Tapeti ſeems to be a very near ſpecies, and, perhaps, a variety of that of the rabbit or hare. It is found at Braſil, and other parts of America. It reſembles the European rabbit in figure, and the hare by its ſize and colour, being only ſomewhat browner. Its ears are very long, and of the ſame ſhape as thoſe of the hare. Its hair is red on the forehead, and whitiſh on the throat ; ſome have a circle of white hair round the neck ; others are all white on the throat, breaſt, and belly. They have black eyes, and whiſkers like the rabbit, but have no tail. The tapeti reſembles the hare in its manner of living, fecundity, and quality of its fleſh, which is excellent food. It lives in the fields, or woods, like the hare, and does not burrow like the rabbit. The animal of New Spain, mentioned by Fernandes by the name of *citli*, ſeems to be ſame as the *tapeti* of Braſil ; and poſſibly both are only varieties of our European hares, which have paſſed by the north from one continent to the other.

THERE are ſtill ſome animals might be added to thoſe in our preceding account, but they are ſo badly indicated as to be very uncertain ; and I rather choſe to confine myſelf to what is known with ſome degree of certainty than deliver myſelf up to conjectures, and treat of fabulous for *exiſting beings*. Notwithſtanding this limitation it will eaſily be perceived, that our HISTORY OF QUADRUPEDS is as complete as could be expected. It comprehends a great number of animals not obſerved or deſcribed before, and not any of thoſe which were anciently known, have we omitted to take notice of in the courſe of this work.

The preceding account, though compoſed of twenty-one articles, yet really contains only nine or ten diſtinct ſpecies, for all the reſt are only varieties. The white bear is only a variety of the common kind; the Tartary cow of the biſon; the Guinea and Cape Verd hogs of the common hog, &c. therefore, by adding theſe ten ſpecies to about one hundred and eighty before ſpoken of, the whole number of quadrupeds, whoſe exiſtence is certain and well aſcertained, does not amount to more than two hundred ſpecies on the ſurface of the known world.

SUPPLEMENT TO THE QUADRUPEDS.

THE CRAB-EATER.

THIS animal has been called Crab-eater, or Crab-dog, from his principally living upon crabs. Some travellers have compared him to the dog and fox, but he has much more affinity to the opoſſums, than whom, however, he is much larger, and the female does not carry her young in a pouch under her belly; therefore the crab-eater appears to be a different ſpecies, to any animal heretofore deſcribed.

There is a ſkin of one of theſe animals preſerved in the royal cabinet, and when tranſmitted to us was very young; it was a male, and meaſured from the noſe to the origin of the tail ſeventeen inches; the tail rather more than fifteen inches and an half, and which was of a greyiſh colour, ſcaly, and naked, gradually tapering to the point. He was about ſix inches and an half high. He was very ſhort, and at a diſtance much reſembled a terrier, his head being much like that of a dog. His eyes were ſmall, the edges of the eyebrows black, and above the eye there are hairs more than an inch long: he had ſimilar hairs near his ears, and his whiſkers were an inch an an half long, and black. He had a large crooked canine tooth on each ſide the upper jaw, which reached below the under. His ears were brown, naked, and round at the ends. His hair on the body woolly, of a dirty white at the bottom, and dark brown at the ends, which is intermixed with long coarſe black hairs; the latter increaſe in length upon the thighs and ſpine of the back, upon the laſt of which they are ſo long as to form a kind of mane from the middle of it to the tail. On the ſides and belly the hair is a yellowiſh white, drawing more to yellow on the ſhoulders, thighs, neck, breaſt, and head, mixed in ſome places with a brown; and the legs and feet of a blackiſh brown. There are five toes on each foot; they are a little bent like thoſe of a rat, the thumb alone being ſtraight; the latter on the hind feet is broad, thick, and at a diſtance from the toes, as in apes, but on the fore-feet it is not ſeparate from them; and the thumb-nails are flat, while thoſe on the other toes are crooked, and extend beyond the points.

I have been aſſured by M. de la Borde that theſe animals are very common in the marſhy places at Cayenne; and of whom he ſpeaks in the following terms: "Theſe animals are very dexterous in climbing trees, upon which they remain much longer than upon the ground, eſpecially in day-time. They have very fine teeth, and defend themſelves from the dogs. Their principal food is crabs, and yet they are always fat. If they cannot get the crabs out of the holes with their feet, they then make uſe of their tails, as a kind of hook, but the crabs ſometimes lay hold of it, and make the animal cry out, which cry reſembles that of a man, and is heard at a great diſtance, tho' its common voice is like the grunting of a pig. The females bring forth in the hollows of old trees, and generally have four or five young at a time. The natives of the country eat their fleſh, which is not unlike that of the hare. They tame very eaſily, and then are fed in the houſes like dogs and cats, with any kind of victuals; from which it is certain that their taſte for crabs is not excluſive."

There is ſaid to be another ſpecies of crab-eater in Cayenne, which differs from that we have deſcribed in the ſhape and proportions of the body, in the ſtructure of their feet and claws, and by its tail being entirely covered with hair; and which beſides ſeizes the crabs with its paws only.

ANONYMOUS ANIMAL.

THIS animal, which we ſhall call *anonymous*, until its real name ſhall have become known, has ſome ſimilarities to the hare, and others to the ſquirrel. We had the following account of it from Mr. Bruce: "On the ſouth ſide of the lake anciently called *Palus Tritonides*, in Lybia, there is a very ſingular animal; it is from nine to ten inches in length, its ears are nearly half as long as its body, and proportionally broad, which is the caſe with no other quadruped, except the long-eared bat. Its muzzle reſembles that of the fox, and yet it ſeems to approach nearer to that of the ſquirrel. It lives on the palm-trees, and feeds upon their fruit. It has ſhort claws, and is a beautiful animal. Its colour is white, intermixed with a little grey and a bright yellow. The middle of the inſide of the ears only is naked, the other parts being garniſhed with large white hairs, and are covered with brown hair intermixed with yellow. The tip of the noſe is black; the tail yellow and black at the end; the tail is pretty long, but differently formed from that of the ſquirrel; and all its hair, as well on the body as the tail, is very ſoft.

MADAGASCAR RAT.

WE have had a figure of a ſmall animal from Madagaſcar, which was taken from one alive in the poſſeſſion of theOunteſs of Marſan. To me it ſeemed to approach nearer the ſpecies of the palm-ſquirrel than that of the rat; for I was aſſured that it frequented the palm-trees; but I have not been able to procure farther information concerning this animal. From its claws not projecting we may infer that it conſtitutes a ſpecies different from that of the rat, and approaches nearer that of the palm-ſquirrel. The Dutch voyagers mention rats on the ſouth-weſt coaſt of Madagaſcar, which they ſay live in the palm-trees, and eat the dates, and deſcribe them to have long bodies, ſharp muzzles, ſhort legs, and long ſpotted tails; which characters ſo perfectly agree with thoſe in the animal now treating of, that we are induced to conclude them the ſame ſpecies.

The one which the Counteſs of Marſan had lived ſeveral years; it was extremely briſk in its movements, and its cry was nearly ſimilar to that of the ſquirrel, but weaker. Its manners were alſo like the ſquirrel, for it carried its food to its mouth with its fore-paws, and erected its tail; but it could never be tamed; it would bite deſperately: it was fed with fruits and almonds; it only came out of its cage at night, and it felt no inconveniency from our winters, being kept in a chamber with a ſmall fire.

OF THE DEGENERATION OF ANIMALS.

WHEN man began to diſperſe himſelf from climate to climate, his nature underwent ſeveral alterations; in the temperate countries which we ſuppoſe to be near where he was originally produced, theſe alterations have been but ſlight; but they increaſed in proportion as the diſtance was greater; and after many centuries had paſſed away, continents had been traverſed, and generations degenerated by the influence of different climates, he ventured to the extremes, and being habituated to the ſcorching heats of the ſouth, and the frozen regions of the north, the changes have become ſo great that there is room for imagining that the Negro, the Laplander, and the White, were different ſpecies, if, on the one hand, we were not certain that there was but one man originally created, and, on the other, that the White, Laplander, and Negro, can unite and propagate the great family of the human kind. Thus their colours are not original, their diſreſemblances being only external and ſuperficial. It is the ſame being which is tinctured with black under the torrid zone, and rendered tawny, with contracted limbs by the rigour of the cold under the polar circle. This fact is alone ſufficient to demonſtrate that there is more ſtrength, extent, and flexibility, in man than in any other being; for vegetables, and almoſt every animal, are confined to particular ſoils and climates. This extenſion of our nature depends leſs on the properties of our bodies than thoſe of our minds. By the laſt man has been enabled to ſeek thoſe things which are neceſſary for the delicacy of his body; by that he has found out the means of bearing the inclemencies of the weather, and to conquer the barrenneſs of the earth. He may be ſaid to have ſubdued the elements: by a ſingle ray of his intellect he produced the element of fire, which before did not exiſt on the ſurface of the earth: he has cloathed, ſheltered, and lodged himſelf, thus providing againſt every external attack: he has compenſated by his reaſon for every deficiency; and although not ſo ſtrong, ſo large, nor ſo robuſt, as many animals, yet he has found means to conquer, ſubdue, enſlave, and deprive them of thoſe ſpaces which Nature ſeems to have reſigned them for their uſe.

The earth is divided into two great continents: which diviſion is more ancient than all human ſtructures and monuments, and yet man is more ancient than that diviſion, for he is found the ſame in both. The Aſiatic, the European, and the Negro, alike propagate with the American. Nothing can ſtronger prove them to be the iſſue of one ſource than the facility with which they re-unite with the common ſtock. The blood is different, but the gem is the ſame. The ſkin, the hair, the features, and the ſize, have varied, but the internal form has not changed. The type is general and common, and if it ſhould ever happen, by any unforeſeen revolution, that man ſhould be obliged to forſake thoſe climates which he has poſſeſſed himſelf of, and return to his native country, he would in time reſume his original features, his primitive ſize, and his natural colour. But the mixture of races would produce the ſame effect in a much ſhorter time. The conjunction of a white male with a black female, or a black male with a white female, equally produce a Mulatto, whoſe colour is brown, that is, a mixture of black and white. The mulatto intermixing with a white, produces a ſecond mulatto not ſo brown as the former; and if this ſecond mulatto unites with a white, the third mulatto will have no more than a ſlight tincture of the brown, which will entirely diſappear in ſucceeding generations. Thus, by this mixture with a white, one hundred and fifty, or two hundred years is ſufficient to bleach the ſkin of the Negro; but it would, perhaps, require many centuries to produce this effect by the influence of the climate alone. Since the Negroes were tranſported to America, which is about two hundred years, not the ſmalleſt ſhade of difference is perceivable to have taken place in the colour of thoſe families which have preſerved themſelves from mixture. It is true the climate of South America being hot enough to give the natives a brown tint, we ought not to be aſtoniſhed at the Negroes retaining their colour in that part of the world. Indeed, to make a proper experiment of the change of colour in the human ſpecies, ſome individuals of this black race ſhould be tranſported from Senegal to Denmark, where the people have generally fair ſkins, golden locks, and blue eyes; and where the difference of blood, and oppoſition of colour, are the greateſt. We muſt keep theſe Negroes with their females apart from the inhabitants, and ſcrupulouſly prevent all croſſing of their breed. This is the only method of learning how much time it would require to change a Negro into a White, or the White into a Black, by the influence of climate.

This is the greateſt alteration that the atmoſphere has made on man, and yet this is only ſuperficial. The colour of the ſkin, hair, and eyes, varies ſolely by the influence of climate. The other changes, ſuch as that of ſize, features, and the quality of the hair, do not ſeem to depend on this cauſe alone, for among the Negro race, the greateſt part of whom have frizzled wool on their heads, a flat noſe, and thick lips, we meet with whole nations with long and real hair, and regular features. Again, if we compare, among the white race, the Dane with the Calmuck Tartar, or only the Finlander with the Laplander, who belong to the neighbouring nations, we ſhall find as much difference between them, with reſpect to ſize and features, as there is among the Negroes; conſequently we muſt ſubjoin ſome other cauſe to that of the climate to account for theſe alterations, which are ſtronger than the former. The moſt general and direct cauſe is the quality of the food, for it is principally by the aliments that man receives the influence of the ſoil which he inhabits, the air and atmoſphere acting more ſuperficially. While the latter alters the external ſurface by changing the colour of the ſkin, food acts upon the internal form by its properties, which are conſtantly relative to thoſe of the earth by which it is produced. Even in the ſame country we find ſtrong differences between men who occupy the high lands, and thoſe who live in the low. The inhabitants of a mountain are always better made, more ſpirited, and handſomer than thoſe of a valley: therefore, in countries far diſtant from the original climates, where herbage, fruit, grain, and the fleſh of animals, differ both in quality and ſubſtance, the men who feed on them muſt undergo greater changes. Theſe impreſſions are not ſuddenly made. Time is required for man to receive the tincture of the atmoſphere, and ſtill more for the earth to tranſmit him its qualities. Ages, joined to a conſtant uſe of the ſame nutriment, is neceſſary to influence the form of the features, the ſize of the body, the ſubſtance of the hair, and to produce thoſe alterations which, when perpetuated by generation, becomes general and conſtant characters, by which the races, and even the different nations, which compoſe the human race, are diſtinguiſhed.

In brute animals theſe effects are quicker and greater; for, partaking more of the nature of the ſoil than man, and their food being more uniform and unprepared, the quality is more deciſive, and, conſequently, its influence ſtronger; and becauſe as the animals cannot clothe or ſhelter themſelves, nor make uſe of the element of fire, they remain conſtantly expoſed to the impreſſions of the air, and inclemencies of the climate. For this reaſon every animal has choſen its zone and country according to its nature; for the ſame reaſon they remain there, and inſtead of extending or diſperſing themſelves, like the human race, they generally continue in thoſe places which are moſt agreeable to their conſtitutions. When driven by man, or carried away, or forced by any revolution of the globe to forſake their native country, their nature undergoes ſuch great and ſtrong alterations that they are no longer to be known, but by having recourſe to attentive inſpection, and even to experiment and analogy. If to theſe natural cauſes of alteration in free animals we add that of the empire of man over thoſe which he has reduced to ſlavery, we ſhall be ſurpriſed to ſee how far tyranny is able to degrade and disfigure Nature; we ſhall perceive the ſtigmas of captivity, and the impreſſions of her fetters; we ſhall find that thoſe wounds are deeper, and more incurable, in proportion to their antiquity; and that in the ſtate wherein we have reduced domeſtic animals it would perhaps be impoſſible to reinſtate them in their primitive form, and to reſtore thoſe other natural attributes which we have deprived them of.

Thus, the temperature of the climate, the quality of the food, and the evils ariſing from ſlavery, are the three cauſes of the changes and degeneration of animals. The effects of each deſerve to be particularly conſidered, and their relations, when viewed in detail, will preſent a tablet on which we ſhall ſee Nature ſuch as ſhe is at preſent, and in a more remote degree, what ſhe was before her degradation.

Let us compare our ſheep with the muflon, from whom they ſpring. The laſt is as large and ſwift as a ſtag, armed with defenſive horns and hoofs, covered with a rough hair, and dreads neither the inclemency of the ſky, nor the voracity of the wolf. He not only eſcapes his enemies by his ſwiftneſs, but can even ſtand againſt them by the ſtrength of his body, and the ſolidity of the weapons his head and feet are furniſhed with. What a difference from our ſheep, who ſcarcely have any power to ſubſiſt in flocks, and who cannot defend themſelves even by numbers; who are unable to withſtand the rigours of our winters without ſhelter, and who would all periſh if it was not for the care and protection of man? In the hotteſt climates of Africa and Aſia, the muflon, who is the common father of all the races of ſheep, ſeems to have ſuffered leſs degeneration than in any other country; for, though reduced to a domeſtic ſtate, he has preſerved his ſtature and his hair, and has only ſuffered a loſs in the ſize of his weapons. The ſheep of Senegal and India are the largeſt of all domeſtic ſheep and thoſe whoſe nature has experienced the leaſt degradation. The ſheep of Barbary, Egypt, Arabia, Perſia, Armenia, &c. have undergone greater changes; they are, relatively ſpeaking as to the human ſpecies, improved in ſome reſpects and vitiated in others; but improvement and degeneration are the ſame thing with regard to Nature, as they both imply an alteration from the original formation. Their coarſe hair is changed into fine wool; their tail, loaded with a lump of fat, has become ſo large and inconvenient a bulk, that the animal drags it along with pain and difficulty; and while thus charged with ſuperfluous matter, and adorned with a beautiful fleece, their ſtrength, agility, and weapons are diminiſhed; for theſe broad and long-tailed ſheep are ſcarcely half the ſize of the muflon; they cannot fly from danger, nor make reſiſtance againſt an enemy; and are in continual need of the care and aſſiſtance of man to preſerve and multiply their ſpecies. The degeneration of the original ſpecies is ſtill greater in our climates. Of all the qualities belonging to the muflon, our ewes and rams retain nothing but a ſmall portion of vivacity, and even that yields to the voice of the ſhepherd. Timidity, weakneſs, reſignation, and ſtupidity, are the only ſorrowful remains of their degraded nature. If we would reſtore their ſtrength and ſize, our Flanders ſheep ſhould be united with the muflon, and be no longer ſuffered to propagate with the inferior ſpecies ; and if we would devote this ſpecies to the more uſeful purpoſes of affording good meat and fine wool, we muſt imitate ſome of our neighbours in propagating the Barbary race of ſheep, which, being tranſported into Spain and England, has been attended with ſuch great ſucceſs. Strength and magnitude are the maſculine attributes ; plumpneſs and beauty of the ſkin are feminine qualities. If we would have fine wool, therefore, our rams ſhould be ſupplied with Barbary ewes : and if the reſtoration of ſize is the object, the muflon ſhould be given to our ſheep.

The ſame effect might be produced in our goats. We might change the nature of their hair, and render it as uſeful as the fineſt wool, by intermixing them with the goats of Angora. The goat ſpecies, although greatly degenerated, is leſs ſo in our climate than that of the ſheep ; and in the warm countries of Africa and India, it appears to be ſtill more degenerated. The ſmalleſt and weakeſt goats are thoſe of Guinea, Juda, &c. and yet, in thoſe countries we find the largeſt and ſtrongeſt ſheep.

The ſpecies of the ox, of all domeſtic animals, ſeems to be that on which the food acts with the greateſt influence. It attains a prodigious ſize in thoſe countries where the paſture is rich and nouriſhing. The ancients called the oxen of Ethiopia by the name of *bull-elephants*, becauſe in thoſe countries they nearly approached the ſize of the elephant. The great plenty of herbage, and the ſucculent quality thereof, produced this effect, we have a proof of this in our own climate. An ox fed on the tops of the higheſt mountains of Savoy or Switzerland acquires twice the bulk of our oxen; tho' the oxen of Switzerland, like ours, are ſhut up in the ſtable during the greateſt part of the year. The difference ariſes from their being admitted to free paſture as ſoon as the ſnow is melted; whereas in our provinces they are not permitted to enter the meadows till after the crop of graſs reſerved for the horſes is carried off; they are, therefore, neither amply fed nor properly nouriſhed, and it would prove extremely uſeful to the nation in general, if a regulation was made to aboliſh theſe uſeleſs paſtures, and to encourage encloſures. The climate has alſo great influence on the nature of the ox. In the northern parts of both continents, it is covered with a long ſoft hair reſembling wool ; and on its ſhoulders is a large hunch, which deformity is found in all the oxen of Aſia, Africa, and America. Thoſe of Europe alone have no hunch. The laſt, however, are the primitive race to which the hunched race aſcend by intermixture in the firſt or ſecond generation. What ſtill farther proves this hunched race to be only a variety of the firſt, is, its being ſubject to great degradations. There is an uncommon difference in their ſize. The little zebu of Arabia is not more than a tenth part of the magnitude of the bull-elephant.

In general, the influence of the food is greater, and produces more ſenſible effects on thoſe animals which feed on herbage and fruits. Thoſe that live only upon fleſh, vary leſs from that cauſe than from the influence of climate ; becauſe fleſh is an aliment, already aſſimilated to the nature of the carnivorous animal that devours it ; whereas graſs being the firſt product of the earth, poſſeſſes all the properties of it, and immediately tranſmits the terreſtrial qualities to the animal.

Thus the dog, on which food ſeems to have but ſlight influence, is, of all carnivorous animals, that ſpecies which is much varied : it ſeems minutely to follow the difference of climate in its degradation; it is naked in the warmeſt climates; cloathed with a thick and coarſe hair in the northern regions, and adorned with a beautiful ſilken coat in Spain and Syria, where the mildneſs of the air changes the hair of moſt animals into a kind of ſilk. But, independent of theſe external varieties, which are produced by the influence of climate alone, the dog is ſubjected to other alterations which proceed from its condition, its captivity, or the ſtate of ſociety the dog is in with reſpect to man. The augmentation, or diminution, of its ſize, is cauſed by the care taken to unite the great with the ſmall individuals. The ſhortneſs of the ears and tail proceeds alſo from the hand of man. Dogs which have had their tails and ears cut for a few generations tranſmit thoſe defects wholly, or partly, to their deſcendants. I have ſeen dogs whelped without tails, which I at firſt took for individual monſters; but I am ſince aſſured that this breed exiſts, and is perpetuated by generation. The long and hanging ears, which is the moſt general and certain mark of domeſtic ſlavery, is common to almoſt every dog. Among thirty different races of which the ſpecies is at preſent compoſed, only two or three have preſerved their primitive ears; the ſhepherd's dog, the wolf-dog, and the dog of the north, alone have erect ears. The voice of theſe animals has alſo undergone ſtrange alterations. The dog ſeems to owe its vociferouſneſs to man, who, of all beings, uſes his tongue the moſt. In a ſtate of nature the dog is almoſt dumb, and ſeldom even howls, except when preſſed with hunger; it acquired the faculty of barking by commerce with men in poliſhed ſocieties, for when tranſported to extreme climates, where the people are uncultivated, as the Laplanders, or Negroes, he ceaſes barking, aſſumes his natural howling, and often becomes abſolutely dumb. Dogs with erect ears, particularly the ſhepherd's dog, which is the leaſt degenerated, is alſo that which makes the leaſt uſe of his voice, paſſing a life of ſolitude in the country, and having no commerce but with ſheep and a few ſimple peaſants, he is, like them, of a ſerious and ſilent diſpoſition, though at the ſame time very active and ſagacious: of all dogs this has the feweſt acquired qualities, and the moſt natural talents; it is alſo the moſt uſeful to preſerve good order, and to protect the ſheep; and it would prove more advantageous to increaſe this breed than to extend that of other dogs, who are of no other ſervice but for our amuſements, and whoſe numbers are ſo great, that there is not a town or village where a number of families might not be fed with the aliments conſumed by theſe animals.

The domeſtic ſtate has greatly contributed to vary the colour of animals, which, in all, originally was either brown or black. The dog, the ox, the goat, the ſheep, and the horſe, have imbibed all kinds of colours. The dog has changed from black to white ; and pure white, that is without any ſpots, ſeems to mark the laſt degree of degeneration, and which is commonly accompanied with imperfections or eſſential defects. In the race of white men, thoſe who are remarkably ſo, and whoſe hair, beard, and eyebrows, are white, are often deaf, and alſo have red and weak eyes. In the black race, the faireſt negroes are ſtill of a weaker nature. All thoſe animals which are abſolutely white have the defects of being hard of hearing and having red eyes. This kind of degeneration, though more common in domeſtic animals, is ſometimes ſeen in the wild ſpecies ; as in the elephant, ſtags, fallow-deer, monkies, moles, and mice, in all of which this colour is always accompanied with either a greater or a leſſer weakneſs of body and dulneſs of ſenſation.

But of all animals the camel ſeems to have the greateſt and deepeſt impreſſions of ſlavery made on him. He comes into the world with prominences on his back, and calloſities on the breaſt and knees; theſe calloſities are formed by the continual friction on thoſe parts, as is plain from their being filled with pus and corrupted blood. As he never travels without being heavily loaded, the preſſure of the burden has prevented the free extenſion and uniform growth of the muſcular parts of the back, and produced a ſwelling in the ſurrounding fleſh; the camel likewiſe being conſtrained at firſt to reſt or ſleep in a kneeling poſture, in time it becomes habitual; and from ſupporting the whole weight of his body, for ſeveral hours in the day, on his breaſt and knees, the ſkin of thoſe parts is rubbed off by preſſing againſt the earth, and by degrees they become hard and callous. The lama, which paſſes his life, like the camel, under the preſſure of heavy burdens, and likewiſe reſts on his breaſt and knees, has ſimilar calloſities, which are perpetuated by generation. The baboons and monkies, which, whether ſleeping or waking, are generally in a ſitting poſture, have alſo calloſities on their poſteriors. This callous ſkin is even adherent to the bones, againſt which it is continually preſſed by the weight of the body. But the calloſities of the baboons and monkies are of a dry and healing nature, as they do not proceed from the oppreſſion of any ſuperabundant weight, but, on the contrary, are only the effects of natural habits, for theſe animals remain longer in a ſitting than in any other poſture. The calloſities of the monkey are like the double ſkin on the ſole of a man's foot. This is a natural calloſity, which our habit of walking or ſtanding renders thicker and harder, according to the greater or leſſer degree of friction we effect by exerciſe.

Wild animals not being immediately ſubject to the empire of man, are not liable to ſuch great alterations as the domeſtic kinds. Their nature ſeems to vary according to different climates, though no where degraded. If they were at liberty to chuſe their climate and food theſe alterations might be ſtill leſs; but as they have at all times been hunted and exiled by man, or even by thoſe quadrupeds which have a greater ſtrength, and are more ferocious, than others, the greateſt part of them have been obliged to quit their native country, and to live in climates leſs favourable to their conſtitutions. Thoſe which had ſufficient flexibility of nature to accommodate themſelves to their new ſituation have diſperſed to great diſtances, whereas others had no reſource but to confine themſelves within the neighbouring deſarts of their native country. There is no ſpecies of animal, except man, univerſally ſpread over the face of the terreſtrial globe. Some, and indeed great numbers, are confined to the ſouthern parts of the Old Continent, and others to the ſouthern parts of the New; while others, though a leſſer quantity, are confined to the cold regions of the north; and, inſtead of extending themſelves towards the ſouth, have paſſed from one continent to the other by roads which remain unknown to us even at this preſent hour. There are other ſpecies which inhabit particular mountains or vallies, and the alterations of their nature is ſo much the leſs apparent the more they are confined to a ſmall ſpace.

The climate and food having little influence on wild animals, and the empire of man ſtill leſs, their principal varieties proceed from another cauſe. They are relative to the combination of their number in individuals, as well in thoſe which produce as in thoſe which are produced. In thoſe ſpecies, like that of the roe-buck, where the male attaches himſelf to one female, and never changes, the young ones demonſtrate the fidelity of their parents by their entire reſemblance to them. In thoſe ſpecies, on the contrary, where the females often change the male, as in that of the ſtag, there are a number of varieties; and as there is not in nature a ſingle individual which perfectly reſembles another, the number of varieties in animals is in proportion as their produce is more numerous or more frequent. In ſpecies where the female produces five or ſix young ones, three or four times a year, the number of varieties muſt neceſſarily be greater than in thoſe where the produce is annual, and a ſingle one. The inferior ſpecies, therefore, which produce oftener, and in greater numbers than the larger, are ſubject to more varieties. Size of body, which ſeems only to be a relative quality, nevertheleſs poſſeſſes poſitive rights in the laws of Nature. The larger ſpecies is as fixed as the ſmaller is changeable. We ſhall be convinced of this fact by enumerating the varieties which take place in the large and ſmall animals.

In Guinea the wild boar has very long ears, turned backwards. In China he has a large pendant belly, and very ſhort legs. At Cape Verd, and other places, his tuſks are very large and crooked, like the horns of an ox. In a domeſtic ſtate, and in cold and temperate climates, his ears are ſomewhat pendant, and his briſtles are white. I do not place the peccari, nor the babirouſſa, among the varieties of the wild boar, becauſe neither belong to that ſpecies, although they approach it very near.

We find that the ſtag, in dry, hot, and mountainous countries, ſuch as Corſica and Sardinia, has loſt above half his original ſize, his hair has become brown, and his horns blackiſh. In cold and wet countries, as in Bohemia, and at the Ardennes, his ſize is greatly increaſed, his coat and horns are become almoſt black, and his hair is ſo greatly lengthened as to form a kind of beard on his chin. In North America the horns of the ſtag are extended and branched by crooked antlers. In a domeſtic ſtate his coat changes from a yellow to a white; and when not at perfect liberty, or in large parks, his legs are deformed and crooked. I do not reckon the axis among the varieties of the ſtag; it approaches nearer that of the fallow-deer, and is, perhaps, only a variety of it.

It would be a difficult point to determine the original ſpecies of the fallow-deer. He is not in any part of the globe entirely domeſtic, nor abſolutely wild. He varies indifferently from a yellowiſh brown to a pied, and from a pied to a white. His horns and tail, in different races, are longer or ſhorter, and his fleſh is good or bad, according to the ſoil and climate. Like the ſtag he is found in both continents, and he ſeems to be larger in Virginia, and the other temperate provinces of America, than in Europe. It is the ſame with the roe-buck; he is of a larger ſize in the New than the Old Continent; but in other reſpects, his varieties are confined to ſome differences in the colour of the hair, which changes from a yellow to deep brown. The ſmalleſt roe-bucks are generally of a fallow colour, and the largeſt brown. The roe-buck and fallow-deer, are the only animals common to both continents, which are larger and ſtronger in the New than in the Old.

The aſs has undergone but few changes, even though ſubjected to the moſt rigid ſervile ſtate; for his nature is ſo ſtubborn, that it equally reſiſts ill treatment, the inconveniences of a foreign climate, and coarſe food. Though he is a native of hot countries, he can live and even multiply without any aſſiſtance from man in temperate climates. Formerly there were onagers, or wild aſſes, in the deſarts of Aſia Minor, but at preſent there are very few, and are only to be found in numbers in the deſarts of Tartary. The Darian mule, called czigithai by the Tartars, is, probably, the ſame animal as the onager of the Aſiatic provinces; as the former differs only from the latter by the length and colour of the hair, which, according to Mr. Bell, ſeems to be undulated with brown and white. Theſe czigithais are found in the foreſts of Tartary, even to the 51ſt, and 52d degree of latitude. They muſt not be confounded with the zebra, whoſe colours are more bright, and quite otherwiſe diſpoſed; beſides the zebra forms a particular ſpecies, as different from that of the aſs, as from the horſe. The only remarkable degradation of the aſs is the ſkin, in a domeſtic ſtate having become more pliant and loſt thoſe ſmall tubercles which are found ſcattered over the onager, and of which the people of the Levant make what is known here by the name of *Shagreen*.

The hare is of a flexible, yet firm nature, for tho' diſperſed over almoſt every climate of the Old Continent, yet it continues nearly the ſame, its ſkin only becoming rather whiter during the winter in very cold climates, but it reſumes its natural colour in ſummer, which only varies from a fallow to a reddiſh hue. The red hares are always the beſt eating. But the rabnor abſolutely wild. He varies indifferently from a yellowiſh brown to a pied, and from a pied to a white. His horns and tail, in different races, are longer or ſhorter, and his fleſh is good or bad, according to the ſoil and climate. Like the ſtag he is found in both continents, and he ſeems to be larger in Virginia, and the other temperate provinces of America, than in Europe. It is the ſame with the roe-buck; he is of a larger ſize in the New than the Old Continent; but in other reſpects, his varieties are confined to ſome differences in the colour of the hair, which changes from a yellow to deep brown. The ſmalleſt roe-bucks are generally of a fallow colour, and the largeſt brown. The roebuck and fallow-deer, are the only animals common to both continents, which are larger and ſtronger in the New than in the Old.

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The elk, whoſe ſpecies is confined to the northern part of the two continents, is only leſs in America than in Europe, and we ſee by the enormous horns found under the ground in Canada, Ruſſia, Siberia, &c. that theſe animals were formerly much larger than they are at preſent,

ſent. This difference of ſize perhaps proceeded from the perfect tranquillity they enjoyed in the foreſts, and not being diſturbed by the human ſpecies, which had not at that time penetrated into thoſe climates, they were at liberty to chuſe their reſidence in thoſe ſpots where the air, ſoil, and water agreed beſt with their conſtitutions. The rein-deer, which the Laplanders have rendered domeſtic, is, on this account, more changed than the elk, which has not yet been reduced to ſlavery. The wild rein-deer are larger, ſtronger, and their hair is blacker than the domeſtic kind: the laſt have varied in the colour of their hair, and alſo in the ſize of their horns. The lichen, or the rein-deer liverwort, conſtitutes the principal food of theſe animals, and ſeems, by its quality, to contribute greatly to the nutritive growth of the horns, which are proportionably larger in the rein-deer than in any other ſpecies; and it is, perhaps, this ſame nutriment which in this climate produces horns on the head of the hare in the ſame manner as it does upon that of the female rein-deer; for in every other climate, there are no horned hares, nor any female animal that is furniſhed with horns like the male.

The elephant is the only quadruped on which a domeſtic ſtate has never had any influence, becauſe in that ſtate it will not propagate, and conſequently cannot tranſmit to its ſpecies any defects which its ſervile condition might occaſion. There are only ſlight and almoſt individual varieties in the elephant: its natural colour is black; however ſome of them are red, and others white, but thoſe are very few in number. The ſize of the elephant alſo varies according to the longitude, or rather latitude, of the climate. Under the torrid zone, where it is, as we may ſay, ſhut up, and under the ſame line, in the eaſtern parts of Africa, it attains fifteen feet in height; whereas in the weſtern parts of the ſame country it only arrives to the height of ten or eleven feet, which proves that though great heat is neceſſary to the full expanſion of its body, yet exceſſive heat reduces it to leſs dimenſions. The rhinoceros ſeems to be of a more uniform and leſs variable ſize, and only differs in its own breed by that ſingular character which diſtinguiſhes it from every other animal, namely, the great horn on its noſe. This horn is ſingle in the Aſiatic rhinoceros, and double in the African.

I decline ſpeaking in this place of the varieties which are found in every ſpecies of carnivorous animals, as they are extremely ſlight; and as all animals which feed on fleſh are the leaſt dependent on man. By means of this nutriment already prepared by Nature, they receive ſcarcely any of the qualities of the ſoil they inhabit; beſides, being endowed with ſtrength and weapons, they have the power of chuſing their own climate: conſequently the three cauſes of change, alteration, and degeneration, which we have ſpoken of, can have but very ſlight and trivial effect on them.

After this glance of the variations peculiar to each ſpecies, a more important conſideration preſents itſelf, that of the change of the ſpecies themſelves; it is in this ancient and immemorial degeneration made in each family, or in every genus, under which we may comprehend the proximating ſpecies. Among all terreſtrial animals there are only ſome detached ſpecies, which, like the human, at once compoſe both ſpecies and genus. The elephant, the rhinoceros, the hippopotamus, and the giraffe, form genera, or ſimple ſpecies, which propagate only in a direct line, and have no collateral branches; every other appears to form families, in which one principal trunk is generally to be recognized, and from whence iſſues ſeveral different branches, ſo much the more or leſs numerous as the individuals in each ſpecies are barren or prolific.

Under this point of view, the horſe, the zebra, and the aſs, are all of the ſame family. If the horſe is the ſource, or principal trunk, the zebra and the aſs will be collateral branches. The number of their reſemblances being infinitely greater than that of their differences, we may look on them as conſtituting only one genus, the principal characters of which are clearly announced, and common to all three. They are the only animals which have ſolid hoofs without any appearance of toes or nails. Though they form three very diſtinct ſpecies they are not abſolutely ſeparated, ſince the male-aſs will produce with the mare, and the horſe with the ſhe-aſs; and it is probable that if we were to tame the zebra, and mollify his ſavage nature, it would likewiſe produce with the horſe and the aſs.

This mule, therefore, which has hitherto been regarded as a vitiated production, as a monſter compoſed of two different natures, and conſequently incapable of reproduction, is not ſo baſe as might be imagined from the above prejudice, ſince it is not really unprolific, and its ſterility depends on certain external and peculiar circumſtances. It is well known that mules produce in warm countries, and we have ſome examples of their producing even in our temperate climates. But we do not know whether this generation ever proceeded from the union of a male with a female mule, or if the production was not effected by the junction of a mule with a mare, or a male-aſs with a mule. There are two kinds of mules, the firſt is the great mule which proceeds from the junction of the male-aſs with a mare, and the ſmall mule, proceeding from the horſe and the ſhe-aſs. The ancients were acquainted with both, and diſtinguiſhed them by two different names; they called the firſt *mulus*, and the ſecond *hinnus*. They aſſert that the *mulus* produced with the mare, an animal called *ginnus* * or *hinnus*; that the ſhe-mule conceived very readily, but ſeldom brought the fœtus to perfection: and that, though they have had frequent examples of mules bringing forth, yet ſuch productions were looked on as prodigies. But what is a prodigy of nature, except an event which happens more rarely than ſome others? The mule, therefore, can engender, conceive, and bring forth in certain circumſtances: hence it is only required to know what theſe circumſtances are, and to acquire farther information concerning generation by a mixture of ſpecies, and conſequently in the unity and diverſity of each genus. To ſucceed in theſe enquiries, the he-mule muſt be joined with a ſhe-mule, a mare, and a ſhe-aſs; the ſame ſhould be done with the bardeau, and then the reſult of theſe ſix copulations ought to be carefully marked. The females of the aſs, mule, and bardeau, ſhould alſo be paired with a horſe.

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* The word *ginnus* is uſed by Ariſtotle in two ſenſes: the firſt to denote in general an imperfect animal, an abortion, a dwarf animal, proceeding ſometimes from the horſe and the aſs: and the ſecond to ſignify the particular produce of the mule and the mare.

Theſe experiments, however ſimple, have never yet been tried with a view to explain the nature of generation. I regret it has not been in my power to try them, as I am perſuaded conſequences would reſult from them, which at preſent we only apprehend, and ſpeak of in a preſumptive mode. I imagine, for example, that of all the above copulations, that of the great mule with the female-bardeau, (the animal produced by the horſe and aſs) and that of the male-bardeau and ſhe-mule might poſſibly not ſucceed: that the junction of the he and ſhe-mule, and that of the male and female-bardeau, might ſometimes be attended with ſucceſs, though not often. That the he-mule would produce with the mare with greater certainty than with the ſhe-aſs, and the male-bardeau with more certainty with the ſhe-aſs than with the mare; and that the horſe and he-aſs might poſſibly produce with both the ſhe-mules, but that the aſs would be more ſucceſsful than the horſe. Theſe experiments ſhould be made in a country at leaſt as warm as the ſouth of France; and the age of the mules ſhould be ſeven, the horſes five, and the aſſes four years, becauſe thoſe different periods is neceſſary before thoſe three animals acquire their full vigour.

Theſe then are the analogical reaſons on which the above preſumptions are founded. In the common courſe of nature, it is not the males but the females which conſtitute the unity of ſpecies. We know by the example of the ſheep, which propagate alike with the ram, or the goat, that the female has much more influence than the male, on the ſpecific qualities of the production, ſince the only iſſue from theſe two different males are lambs, that is, individuals which have a ſpecific reſemblance to the mother. Thus the mule reſembles the mare more than the aſs, and the bardeau more the ſhe-aſs than the horſe; therefore *the mule ought to produce more certainly with the mare, than with the ſhe-aſs, and the bardeau ſtill more ſo with the ſhe-aſs than with the mare, ſo the horſe and he-aſs might poſſibly produce with both the ſhe-mules*; becauſe being females, though ſomewhat vitiated, each retains more ſpecific qualities than the male-mules; *but the he-aſs ſhould produce with them more certainly than the horſe*; becauſe it is obſerved, that the he-aſs poſſeſſes ſtronger prolific powers than the horſe, even with the mare, for the firſt corrupts and totally deſtroys the generation of the latter. We may be convinced of this fact by firſt taking a ſtallion to a mare, and the next morning, or even ſome days after, ſerving her with a male-aſs, and their production will always be mules, and not horſes. This fact, of which every circumſtance deſerves attention, ſeems to indicate, that the aſs and not the horſe, is the ſtock, or principal root of the family, ſince the firſt predominates by its prolific powers over the latter even with its own female, eſpecially as, if the aſs is firſt given to the mare and the horſe afterwards, the latter does not deſtroy the generation of the former, for even then the production is ſtill a mule. On the other hand, the like effect does not happen when the he-aſs precedes the horſe, with the ſhe-aſs, for the latter never deſtroys the operation of the former. With reſpect to the copulation of mules among themſelves, I have preſumed it to be ſterile, for we can expect nothing elſe from two temperaments already debaſed by generation, and which by their union cannot fail of being ſtill more debaſed, than a production entirely vitiated, or abſolutely none at all.

By the mixture of the mule with the mare, of the bardeau with the ſhe-aſs, and the horſe and he-aſs with ſhe-mules, we ſhould obtain individuals which would aſcend towards the original ſpecies, and would be only half mules, which, like their parents, would not only have power to engender with their primitive ſpecies, but perhaps have the faculty of propagating among themſelves; for being but half debaſed, their production would not be more vitiated than the firſt mules; and if the union of theſe half mules was ſterile, or their productions rare, it appears almoſt certain, that by bringing them a degree ſtill nearer their original ſpecies, the individuals which would reſult from ſuch union, and which would be no more than a fourth part debaſed, would produce among themſelves and form a new ſtem which would neither be preciſely that of the horſe nor that of the aſs. Now as every thing poſſible has been accompliſhed in time, and either does exiſt; or has exiſted in Nature, I am inclined to think that the prolific mule, ſpoken of by the ancients, and which in the days of Ariſtotle exiſted in Syria, above Phœnicia, might be a race of theſe half or quarter mules, which has been produced by the commixtures we have been ſpeaking of: for Ariſtotle expreſsly ſays, that theſe prolific mules perfectly reſembled the barren mules. He alſo very clearly diſtinguiſhes them from the onagers or wild aſſes, which he mentions in the ſame chapter: conſequently we can only refer theſe animals to mules which were but little vitiated, and preſerved their reproductive faculties. The *czigithai*, or prolific mule of Tartary, of which we have before ſpoken, may alſo poſſibly not be the onager, or the wild aſs, but only this Phœnicial mule, the race of which perhaps ſtill remains. The firſt traveller who is able to compare them, will confirm or deſtroy this conjecture. The zebra itſelf, which even bears a greater reſemblance to the horſe than to the aſs, might probably have the ſame origin; the conſtrained regularity of his colours, alternately diſpoſed in black and white ſtripes, ſeems to indicate that they proceed from two different ſpecies, which in their mixture have ſeparated as much as poſſible; for Nature, in none of her works, is ſo abrupt, or ſo little ſhaded as on the coat of the zebra, where it ſuddenly and alternately changes from white to black, and from black to white, without any intermedium throughout the whole extent of the animal's body.

But however that may be, it is certain from what we have ſaid, that mules in general, which have ever been accuſed of ſterility, are nevertheleſs neither really nor univerſally ſo; and that this ſterility is only manifeſt in that particular kind of mule proceeding from the connection of the aſs and the horſe; for the mule produced by the he-goat and the ewe, is as prolific as its parents, and moſt mules which proceed from different ſpecies of birds, are not barren; therefore it is only in the particular nature of the horſe and aſs, that we muſt ſeek for the cauſes of the infecundity of the mules produced by them; and inſtead of ſuppoſing barrenneſs a general and neceſſary defect in every mule, it, on the contrary, ſhould be limitted to that mule alone proceeding from the aſs and the horſe, and that this limitation ſhould be farther reſtricted, as theſe mules prove prolific in certain circumſtances, eſpecially when brought a degree nearer their original ſpecies.

The mule, produced by the horſe and the aſs, has its organs of generation as complete as other animals ; nothing ſeems wanting either in the male or female. The males have a great plenty of ſeminal liquor ; and being never ſuffered to copulate, they are often ſo preſſed for a diſcharge, that they frequently reſt upon their bellies for that purpoſe. Theſe animals are, therefore, provided with every thing neceſſary for the purpoſe of generation: they are even very ardent, and, conſequently, very indifferent in their choice. The males have nearly an equal vehement deſire for the female mule, the ſhe-aſs, and the mare. There is, therefore, no difficulty in procuring the copulation, though it requires particular attention and care to render it prolific. A too ſtrong ardour is often attended with ſterility ; and the female mule is at leaſt as ardent as the ſhe-aſs. Now, it is known, that the latter rejects the ſeminal liquor of the male, and that to make her retain it, blows muſt be given, or cold water thrown over her crupper, to calm the convulſive emotions of deſire which ſubſiſt after copulation, and which occaſion this rejection. The ſhe-aſs, and the female mule, therefore, incline to ſterility by their over-heat. The aſſes incline to it from another cauſe; for as they are originally natives of hot climates, cold oppoſes their generation, and this is the reaſon they are allowed to couple in ſummer only. If their union is permitted at any other time, and particularly in winter, it is ſeldom attended with impregnation. The ſeaſon neceſſary to the ſucceſs of their generation is as much ſo for the preſervation of their production. If the young aſs is not brought forth in warm weather it either languiſhes or dies; and as the time of the geſtation with the aſs is only one year ſhe produces at the ſeaſon ſhe conceives: this ſufficiently proves how neceſſary warmth is, not only for the fecundity but alſo for the life of theſe animals. This ſtrong ardour of the female is the occaſion of the male being given her almoſt immediately after ſhe has brought forth, for ſhe is ſeldom ſuffered to reſt above ſeven or eight days between her delivery and copulation; weakened by the birth ſhe is then leſs ardent, and from there not having been a ſufficient interval allowed to ſtrengthen the parts, the conception is more certain than when ſhe is in full vigour. It is pretended, that in this ſpecies, as in that of the cat, the temperament of the female is more ardent than that of the male. However the he-aſs is a great example of vigour, for he can cover females

males ſeveral times each day ſucceſſively. He has been known to indulge his paſſions to ſo great an exceſs as to die on the ſpot, after eleven or twelve reiterated efforts, almoſt without interval, and without refreſhment, except a few draughts of water. This heat, which conſumes the animal, is too ſtrong to be laſting; the he-aſs ſoon becomes unfit for ſervice, and this, probably, is the reaſon of its being ſaid the female is ſtronger and longer-lived than the male. It is certain, that with the proper care and management we have laid down ſhe will live thirty years, and bring forth every year of her life; whereas the male, when not kept from the females, abuſes his ſtrength to ſo great a degree as to loſe the total power of engendering in a very few years.

The he and ſhe-aſs, therefore, both incline to ſterility by common and alſo by different qualities. The horſe and the mare have the ſame tendency. The mare may receive a ſtallion nine or ten days after ſhe has brought forth, and ſhe will produce five or ſix years ſucceſſively, but after that time ſhe becomes barren. To preſerve her fecundity an interval of a year ſhould be allowed between each birth, and inſtead of giving her the ſtallion immediately after ſhe has foaled ſhe ſhould be kept until ſhe ſhews ſome external ſigns of heat. The mare ſeldom proves prolific after ſhe is twenty years old; while the horſe ſometimes preſerves the engendering faculty until the age of thirty. The ſeminal liquor is leſs abundant, and leſs ſtimulating in the horſe than in the aſs; for the latter often copulates without emitting. Beſides his moſt vigorous efforts are not always ſucceſsful; for there are ſome mares naturally barren, and others, whoſe fecundity is but trifling. There are alſo ſtallions which, though vigorous to all appearance, have but little power. To theſe particular reaſons we can add a more evident and general proof of the ſmall degree of fecundity there is in the horſe and aſs. Of all domeſtic animals, although they are the moſt carefully attended to, they are the leaſt in number. In the ox, the ſheep, the goat, and particularly the hog, dog, and cat, the individuals are ten, and, probably, an hundred times more numerous than thoſe of the horſe and aſs. Thus, their want of fecundity is proved by facts, and we muſt attribute the ſterility of the mules to all the above cauſes, as they proceed from a mixture of theſe naturally unprolific ſpecies. In thoſe ſpecies, on the contrary, which, like the ſheep and goat, are numerous, and, conſequently prolific, the mules proceeding from their intermixture, are not barren but aſcend to the original ſpecies in the firſt generation, whereas two, three, or perhaps four generations, are required to reinſtate the mule produced by the horſe and the aſs, to the ſame degree and perfection of nature.

It has been aſſerted, that another kind of mule is produced from the copulation of the bull with the mare. Columella is, I think, the firſt who has ſpoken of it. Geſner quotes his words, and adds, that he heard of theſe mules being found in Grenoble, and which are called in French *jumars*. One of theſe jumars I had brought to me from Dauphiny, and another from the Alpine mountains. By the inſpection of the external parts, as well as by the diſſection of the internal, I diſcovered that they were only bardeaus, or mules produced between the horſe and the ſhe-aſs. I think myſelf, therefore, authoriſed from this experiment, and from analogy, to ſuppoſe this kind of mule does not exiſt, and that the word jumar is only a chimerical name, without any real object. The nature of the bull is too far diſtant from that of the mare, to admit them to engender together, the one having four ſtomachs, horns, cloven feet, &c. and the other being whole-hoofed, with no horns, and only one ſtomach. The organs of generation are likewiſe ſo very different, there is not the leaſt reaſon to ſuppoſe they can copulate with any degree of pleaſure or ſucceſs. If the bull was to produce with any ſpecies beſides his own it would be with the buffalo, which reſembles him in conformation and natural habits; yet we have never heard of any mules being produced by the junction of theſe two animals. What is related of the copulation and production of the ſtag and cow, is nearly as ſuſpicious as the ſtory of the jumars, though the ſtag is much leſs diſtant, by its conformation, from the nature of the cow, than the bull is from that of the mare.

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